ASSOCIATIONS BETWEEN PSYCHOSOCIAL CHARACTERISTICS, TRAINING ATTITUDES AND WELL-BEING IN VARIOUS TRAINING CONTEXTS

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Summary

Training is important to increase an individual's productivity and performance. Meanwhile, high positive well-being is fundamental to ensure that an individual is happy and flourishes. However, limited research has been done that combines these two fields. Most research has focused on the effectiveness of training programmes that were designed to increase an individual's well-being. Rather than emphasising the training programme's effectiveness, the focal point of the current research is to examine the attitudes towards training programmes and its relation to one's well-being. However, well-being can be influenced by various factors; thus, an individual's psychosocial characteristics were included and controlled for in this study. Hence, two main objectives were developed, one of which is to examine the influence of psychosocial characteristics on training attitudes, and the other of which is to examine the influence of training attitudes on well-being after controlling for psychosocial characteristics.

The current research has five empirical studies that measure training attitudes in various training contexts. From exploratory to longitudinal designs and from general to specific training contents, the final study measured training attitudes in the context of well-being intervention programmes. Throughout the study, some consistencies emerged alongside a few mixed findings.

For the first objective, results demonstrated that certain types of psychosocial characteristics, particularly commitment, were positively associated with attitudes towards training across all studies, followed by OCB and positive and negative work characteristics. For the second objective, findings revealed that when psychosocial characteristics were controlled for, some of the training attitudes significantly

influenced well-being only in certain studies. However, univariate correlations showed that other training attitudes significantly correlated with well-being in almost all studies. The insignificant results found at the multivariate level were due to an increased influence of other factors, particularly the effect of psychosocial characteristics (especially positive personality) on well-being.

Overall, the research gives a new perspective on both training and well-being research. The findings highlight areas for future research and provide direction for improving the research that combines both fields.

Chapter 1:

Introduction

1.1. General Introduction

The world is increasingly moving forward with a variety of advanced technology, and competent and flexible competitors. For employees who want to develop themselves, it is important that their organisation provides the space and opportunity for them, so that they can equip themselves to compete with other workers in a healthy way. Because of that, training and education are necessary to develop individuals' expertise to meet current and future job demands, improve work performance and increase employability (Werner & DeSimone, 2011). At the same time, an individual's well-being is crucial to ensure that they can fully and positively carry out their work, and become more productive (Gandy, Coberley, Pope, & Rula, 2016). Many researchers have investigated the predictors of training effectiveness and the transfer of training (Grossman & Salas, 2011), and many studies have examined what constitutes well-being and the factors behind it (Kahneman, Diener, & Schwarz, 1999; Ryff & Singer, 2008). However, there has been very little integration between these fields.

In the training field, researchers have generally examined the factors that contribute to the effectiveness of training programmes, or what makes the transfer of the knowledge and skills from the training programme to the work setting successful. These factors can range from training design to learner characteristics and the work environment (Baldwin & Ford, 1988; Baldwin, Ford, & Blume, 2009; Burke & Hutchins, 2007; Colquitt, LePine, & Noe, 1986). Meanwhile, researchers in the well-

being field have focused on what the conceptual and operational definition of well-being is; for example, subjective (Diener, 1984), psychological (Ryff & Keyes, 1995) or social (Keyes, 1998) well-being. In addition, well-being research has also emphasised the variables and situational factors that contribute to a high level of well-being (personality and individual differences), and well-being in the context of the social (e.g. workplace, close relationship, welfare) and biological perspectives of well-being (Kahneman et al., 1999). Furthermore, a high level of well-being brings various impacts to one's life, either psychological, emotional or physical (Huppert, 2009).

Regarding training, training programmes provide benefits not only for the organisation, but also for the employees, with employees enjoying extrinsic and intrinsic rewards associated with skills development and improvement in performance through the training provided (Elangovan & Karakowsky, 1999). Apart from increased performance and job satisfaction, training programmes can also somehow improve individuals' well-being. Our understanding of the link between training and well-being is still very limited; however, there are a few research papers that have discussed the direct effect of training programmes on well-being, either among the elderly (e.g. Shapira, Barak, & Gal, 2007), undergraduate students (e.g. Häfner, Stock, & Oberst, 2015), adolescents (e.g. Hanrahan, 2005) or the unemployed (e.g. Saloniemi, Romppainen, Strandh, & Virtanen, 2014).

For example, when unemployed people have been provided with a certain type of training, such as occupational training (Creed, Hicks, & Machin, 1998) or personal development training (Muller, 1992), positive outcomes are apparent. Muller (1992) found that those who participate in training programmes experience fewer negative health symptoms, such as depression and low self-esteem, two to six months after the

training ends. Meanwhile Creed et al. (1998) revealed that long-term unemployed people feel less depressed and helpless, and are psychologically less distressed, feel more satisfied with their lives and had improved self-esteem after attending training. In addition, students who participated in time management training significantly experienced less stress and were able to manage their time better two weeks after the training had finished (Häfner et al., 2015).

On the other hand, an improvement in life satisfaction, global self-worth and physical appearance self-concept has been observed among adolescent orphans who participated in psychological skills training (Hanrahan, 2005). Furthermore, when the adolescents were provided with social skills training, they experienced a decrease in social anxiety and an increase in self-esteem level (Bijstra & Jackson, 1998). Moreover, Matsuba, Elder, Petrucci, and Marleau (2008) revealed that at-risk youth who participated in employment training specifically designed to help them find work (seven-month programme) experienced better psychological well-being. They felt more satisfied with their lives, had higher self-esteem and empathy, and experienced reductions in therapeutic reactance, aggression and loneliness.

Apart from this, most of the studies that have investigated the direct link between training and well-being have usually focused on training programmes that purposely aimed to increase individuals' levels of well-being (more commonly known as intervention programmes), such as stress management interventions (Brennan, McGrady, Lynch, Schaefer, & Whearty, 2016; Chinaveh, 2013; Elo, Ervasti, Kuosma, & Mattila, 2008; George, Dellasega, Whitehead, & Bordon, 2013), resilience training (Abbott, Klein, Hamilton, & Rosenthal, 2009; Rose et al., 2013), mindfulness training (Baer, 2003; Krusche, Cyhlarova, & Williams, 2013; Phang, Mukhtar, Ibrahim, Keng,

& Sidik, 2015) and cognitive behaviour therapy (Gardner, Rose, Mason, Tyler, & Cushway, 2005). All of these interventions have yielded positive results, promoting enhanced well-being and general health (Gardner et al., 2005), better coping abilities (George et al., 2013), as well as reduced stress (Cavanagh et al., 2013; Heber et al., 2016; Rose et al., 2013; Schell et al., 2008), anxiety (Cavanagh et al., 2013; Hedman et al., 2015) and depression (George et al., 2013; Vernmark et al., 2010).

Although limited, these studies have shown that training programmes – either focused on various skills (soft and hard) or interventions (improvement of well-being) – have a direct effect on individuals' levels of well-being. Rather than focusing on the direct effect of training programmes on well-being, in this study, four training variables were measured, comprising motivation to learn, learning, transfer intention and cognitive dissonance, and their relation to well-being was examined. These variables – or, so-called attitudes to training – have been proven to be among the predictors of training effectiveness and transfer of training. This is the first study to combine these two research fields, by examining training effectiveness predictors simultaneously, and in a specific context, with well-being research. Hence, the main aim of this study was to explore and investigate the association between attitudes to training and well-being.

We hypothesised that individuals who had a high motivation to learn the content of training programmes, and who perceived that they had learned a lot after attending such, were more likely to experience positive well-being. In addition, those who had the intention to implement the knowledge and skills that they had learned in training programmes in everyday life, and who did not encounter cognitive dissonance while transferring the knowledge and skills, were also more likely to experience

positive well-being. On the contrary, individuals who were less motivated to learn, perceived that they did not learn much during training, did not have the intention to apply the training content, experienced high cognitive dissonance, and were more prone to encounter negative well-being.

However, due to the fact that well-being can be influenced by various variables, the individual's psychosocial characteristics, comprising personality, coping strategies, work characteristics, commitment and OCB, were controlled for. In addition, it was also worth investigating the influence of these characteristics on training attitudes. Before explaining the details – discussed in the literature review, and justified per variable in Chapter 2, here, I continue with a brief overview of the training and well-being research. Following this, the significance of the study is presented, and then the objectives of the study. Next, the organisation of this thesis is outlined, which briefly explains the flow of the study, ending with the conclusions.

1.2. Overview of training research

Training practices have helped organisations grow their businesses and improve customer service by providing their employees with the knowledge and skills they need to be successful (Noe et al., 2013). In order for companies to compete and thrive, a lot of organisations have incorporated employee education, training and development as an important part of their organisational strategies (Werner & DeSimone, 2011).

Training programmes provide benefits not only for an organisation, but also give advantages to the employees, with employees enjoying the extrinsic and intrinsic rewards associated with skills development and improvement in performance (Elangovan & Karakowsky, 1999). In fact, McLean & McLean (2001) clearly defined

human resource development, which training is a part of as the intention to develop people's "knowledge, expertise, productivity and satisfaction, whether for personal or group/team gain, or for the benefit of an organisation, community, nation, or ultimately, the whole of humanity" (p. 322).

According to Campbell et al. (1970), training is a learning experience plan designed to bring permanent change to the knowledge, attitudes or skills of an individual. Skills and technical training programmes in an organisation can be narrowed down to specific training to teach employees a particular skill or area of knowledge. In addition, training refers to different types of knowledge for improving specific behaviours, and the ability of individuals to acquire knowledge, skills, abilities and attitudes during training, and to practice it in the workplace (Baldwin & Ford, 1988; Ismail & Bongogoh, 2007; Lim, 2000).

Research on training began a few decades ago. A variety of studies have been conducted and most have focused on the effectiveness of training programmes, either by performing training evaluation research or transfer of training studies. A number of models have been proposed and tested in an attempt to better understand the ways to make training successful. The most well-known model is Kirkpatrick's Four-Level Training Evaluation Model which comprises reaction (trainees' effective and attitudinal responses to the training), learning (learning outcomes of the training), transfer (behavioural changes) and results (quantifying the outcome) (Kirkpatrick, 1996).

Meanwhile, Noe (1986) built a training transfer model that combined Kirkpatrick's Model with added elements, such as the locus of control that directly influences reaction to skill assessment feedback, career and job attitudes, and

expectancies between the effort and mastery of the training content. These three elements directly influence the motivation to learn, and the motivation to learn is a direct antecedent of learning. At the same time, learning is influenced by reaction to training, and therefore the relationship between learning and behaviour change is likely to be moderated by the motivation to transfer. Meanwhile, the maximum environmental favourability in the workplace has been predicted to influence a trainee's motivation to transfer. The combination of these elements should predict the result of the training programme provided.

When discussing transfer of training, the three longest-standing factors affecting transfer are learner characteristics, training design and work environment. According to various meta-analytics used to review the transfer of training research (Baldwin et al., 2009; Blume, Ford, Baldwin, & Huang, 2010; Burke & Hutchins, 2007; Grossman & Salas, 2011), trainee or learner characteristics consist of cognitive ability, self-efficacy, motivation, perceived utility of training, personality, career/job variables and locus of control. It has been demonstrated that cognitive ability is strongly or moderately associated with transfer of training (Burke & Hutchins, 2007). Moreover, trainees higher in self-efficacy are more confident in their abilities to learn and transfer the content of training programmes, and more persistent in performing difficult tasks (Burke & Hutchins, 2007; Grossman & Salas, 2011).

Meanwhile, various types of motivation (pretraining motivation, motivation to learn and motivation to transfer) have shown a moderate association with transfer of training (Burke & Hutchins, 2007). Those who have high motivation to learn and transfer throughout the training process, have high tendencies to actually apply the skills and knowledge. In addition, those who form implementation intention or have

high intention to apply the newly acquired knowledge and skills to the work setting, have a high probability of actually transferring the skills (Friedman & Ronen, 2015).

Furthermore, personality (particularly openness), extraversion and conscientiousness positively influence transfer of training (Burke & Hutchins, 2007; Noe, 1986). In addition, trainees who believe in the utility of training or who value the outcomes of training, are more likely to apply the skills and knowledge in the work setting (Burke & Hutchins, 2007). Moreover, employees who believe that training has potential benefits for enhancing their current or future job performance are more motivated to transfer the training content (Facteau, Dobbins, Russell, Ladd, & Kudisch, 1995; Noe, 1986).

The influence of training design on transfer of training, either directly or indirectly, comprises needs analysis, learning goals, and content relevance (i.e. the training shares identical elements with the job description). In addition, instructional strategies and methods, including the use of practice and feedback, overlearning (repeated practice) and avoiding cognitive overload among trainees, can facilitate the transfer of training process (Burke & Hutchins, 2007). Grossman and Salas (2011) added that trainers who employ active learning, behavioural modelling and error management (how to handle potential issues), and who provide a realistic training environment (resembling the workplace), are more likely to contribute to the success of training transfer.

Lastly, another factor that plays an important role in transfer of training is the trainee's work environment. Transfer climate, which includes situational cues and consequences, has been found to largely determine whether or not learners competently apply training content in the workplace. In addition, support from both

the supervisor and co-workers has been found to contribute a unique influence on training transfer across several studies (Burke & Hutchins, 2007; Facteau et al., 1995; Nijman, Nijhof, Wognum, & Veldkamp, 2006). Supervisors who help trainees in setting goals for the transfer of training and problem-solving, provide feedback on trainees' success and discuss the best methods for the new knowledge and skills to be put to good use (Xiao, 1996). Moreover, Ismail et al. (2010) showed that supervisors who provide support to the trainees, such as encouraging employees to attend training programmes, giving feedback, encouraging discussion and disseminating information after the completion of training programmes, also contribute to the transfer of training to the workplace. Furthermore, peers who behave optimistically about the use of knowledge acquired by the trainees in the workplace help to shape trainees' motivation to transfer the training content (Nijman et al., 2006).

In summary, research in the training field has covered various issues and problems that have mainly focused on the effectiveness of training programmes by either examining the end-product of the training (e.g. increased productivity, sales, work performance) or by investigating what makes a trainee successfully apply or transfer the newly acquired knowledge and skills to the work setting. The factors can range from trainee characteristics to training design and work environment.

1.3. Overview of well-being research

An individual's level of well-being, either defined as subjective (focus on three domains) or psychological (emphasise on six domains) well-being, or other aspects, can be influenced by various factors. The definition of well-being depends on the operationalisation of the construct in each study. Some have measured well-being as the experience of more positive than negative affect (Kaliampos & Roussi, 2017;

Kroemeke, 2016), and most have included life satisfaction and affectivity together (Denovan & Macaskill, 2017; Diener, 2009; Heinitz, Lorenz, Schulze, & Schorlemmer, 2018; Tanksale, 2015).

On the other hand, most studies have also measured this construct using a psychological well-being questionnaire (Augusto Landa, Martos, & Lopez-Zafra, 2010; Freire, Ferradás, Valle, Núñez, & Vallejo, 2016; Ryff & Singer, 2008), and some have used various work-related variables to measure employee well-being, such as job satisfaction (Rydstedt, Ferrie, & Head, 2006; Smith & Smith, 2016), perceived work competence (Phipps, Walshe, Parker, Noyce, & Ashcroft, 2016), burnout (Kinnunen & Feldt, 2013; Pisanti, van der Doef, Maes, Lazzari, & Bertini, 2011) and work engagement (Santos, Castanheira, Chambel, Amarante, & Costa, 2017). Apart from this, there have also been studies that have measured physical and psychosomatic symptoms to define well-being; for example, by assessing acute symptoms, such as headache, sweating, irritability and backache (Li, Zhang, Song, & Arvey, 2016), anxiety, depression and somatisation (Chambel & Curral, 2005; Pisanti et al., 2011) and the participant's general health (Arenas et al., 2015; Calnan, Wadsworth, May, Smith, & Wainwright, 2004; Capasso, Zurlo, & Smith, 2018). In short, well-being can be divided into two categories – the positive aspect (e.g. happiness, positive affect, life satisfaction, work engagement, job satisfaction) and the negative aspect (ill-being, e.g. stress, anxiety, depression, poor general health).

The benefit of having a good level of positive well-being can be seen in many studies. The most important effect of well-being on individuals is on their physical health (Huppert, 2009). Evidence from longitudinal studies has found that high positive well-being has a beneficial effect on physical health and survival. For

example, in the Nun study, it was revealed that the lower the number of positive statements they contained, the more likely they were to die, on average, nine years earlier than those who gave a high number of positive statements (Danner, Snowdon, & Friesen, 2001). In addition, Huppert and Whittington (2003) demonstrated that 7-year mortality was predicted more strongly by the absence of positive well-being than by the presence of negative well-being. Furthermore, participants with high positive affect were associated with a lower risk of developing a cold (Cohen, Doyle, Turner, Alper, & Skoner, 2003), produced significantly more antibodies to the hepatitis B vaccine (Marsland, Cohen, Rabin, & Manuck, 2006) and showed more rapid cardiovascular recovery from stress (Fredrickson, Mancuso, Branigan, & Tugade, 2000). Moreover, when positive affect was combined with optimism, it was revealed that a healthy pattern of salivary cortisol secretion emerged, compared to negative affect and pessimism. Huppert (2009) concluded that positive mental states can have direct effects on physiological, hormonal and immune function, which in turn have an impact on health outcomes.

Many studies have examined the antecedents of well-being, which range from personal to work-related characteristics. Among the predictors of well-being are personality (Etxeberria, Etxebarria, & Urdaneta, 2018; Henning, Hansson, Berg, Lindwall, & Johansson, 2017; Plopa, Plopa, & Skuzińska, 2017; Strickhouser, Zell, & Krizan, 2017), coping strategies (Carmel, Raveis, O'Rourke, & Tovel, 2017; Chang et al., 2019; Evans, Martin, & Ivcevic, 2018; Rzeszutek, Gruszczyńska, & Firląg-Burkacka, 2017), emotional regulation (De France & Hollenstein, 2019), school/university adjustment (Olasupo, Idemudia, & Dimatkakso, 2018), perceived social support (Itzick, Kagan, & Tal-Katz, 2018; Rey, Extremera, & Sánchez-Álvarez,

2019), lifestyle habit (Alshareef, Alzahrani, & Farahat, 2019) and relationships (e.g. family, peers, teachers) (Newland et al., 2019).

With regard to work-related factors, it seems that work characteristics (Capasso et al., 2018; Nelson & Smith, 2016), psychological contract fulfilment (Ahmad, Firman, Smith, & Smith, 2018), commitment (Clausen, Christensen, & Nielsen, 2015; Mark & Smith, 2012), OCB (Bolino & Turnley, 2005), job satisfaction (Gurková, Čáp, Žiaková, & Ďurišková, 2012; Yan, Yang, Su, Luo, & Wen, 2018) and a few other factors are significantly associated with both positive and negative well-being. Furthermore, Argyle (1999) concluded that, even though the effect was small, demographic variables significantly contribute around 10 percent of variance in well-being. This can include age, education, social class, income, ethnicity, employment, life events and activities. The effect is stronger for certain groups; for example, the unemployed are often unhappy with their lives, as are separated or divorced people, and higher incomes promote better well-being. Not only that, but gender differences have consistently been found to affect several moods and behaviours, including anxiety, fear, sadness, antisocial personality, substance abuse and dependence, hostility, aggressive behaviour and positive moods (Nolen-Hoeksema & Rusting, 2003). Past empirical studies have shown that not only one or two factors can influence well-being, but numerous factors and variables can determine one's future well-being.

1.4. Research aims and objectives

The main aim of this study was to investigate the association between training effectiveness predictors (motivation to learn, learning, transfer intention and cognitive dissonance) and well-being. However, due to the fact that well-being can be influenced by various factors, individuals' psychosocial characteristics were also assessed and

controlled for. In addition, it was also thought to be worth investigating the predictors of the four training attitudes by examining the effect of psychosocial characteristics on these attitudes. A more detailed discussion about the literature on each variable, and a justification for each objective, is presented in the next chapter.

1.5. The significance of the study

The originality and contribution of this study lie in two main domains. First, the research contributes to new knowledge, as the study was aimed at addressing a gap in the training and well-being literature. Almost all of the research in the training field has been focused on what makes training programmes successful, and well-being was not included in these studies, unless the training programmes were aimed at improving trainees' levels of well-being. This study was the first to combine both the training and well-being research fields, by simultaneously investigating the association between four training effectiveness predictors and well-being. Past research has found that motivation to learn, learning, transfer intention and cognitive dissonance are among the factors that contribute to the success of training programmes. In addition, although limited, the literature has shown that these factors or, as we called them, training attitudes are associated with one's level of well-being. However, past investigations have been performed separately; for example, the influence of motivation to learn on well-being, and the effect of learning on well-being. Apart from simultaneously investigating these four attitudes, this study also examined these attitudes in a specific context – that of the training programme.

Second, by investigating the association between training attitudes and well-being, new perspectives in the training field can be provided and, most importantly, the findings will be of practical use among training practitioners or to others who may

find it relevant and beneficial to them. For example, trainers can help trainees to have a positive attitude towards a training programme by encouraging and motivating them to keep on learning new skills and confidently implementing the new knowledge and skills that they have learned in their daily lives. By doing this, it not only increases the transferability of the training or makes the training programmes more successful, but it may also be beneficial to the trainees themselves, with the enrichment of well-being still being achieved, even though the programmes might not be aimed at increasing their level of well-being.

1.6. Objectives of the study

The aim of this study was to examine the association between psychosocial characteristics (personality, coping, work characteristics, commitment and OCB), training attitudes (motivation to learn, learning, transfer intention and cognitive dissonance) and well-being (positive and negative). Specific details of the objectives are provided below.

1.6.1. Objective 1: To review the literature relating to the associations among psychosocial characteristics, training attitudes and well-being

The first task undertaken was to review the previous literature relating to the influence of psychosocial characteristics on well-being. The literature provides plenty of evidence that positive psychosocial characteristics, including positive personality, positive coping strategies, positive work characteristics (low work demand, high in control and support), high commitment and exhibiting OCB, are related to high positive well-being. Meanwhile, negative psychosocial characteristics have been associated with negative well-being. A more systematic review, relating to the association between training attitudes and well-being, was performed. By reviewing

the training attitudes/well-being relationship, a knowledge gap was identified in more detail. The review also demonstrated an association between psychosocial characteristics and training attitudes. This helped in providing a strong grounding for each association, along with bringing forth a direction for this study.

1.6.2. Objective 2: To examine the relationship among the psychosocial characteristics, training attitudes and well-being of organisational workers

To bridge the gap between training effectiveness predictors – which, in this study, are referred to as attitudes to training – and well-being, an exploratory study was needed. Hence, the first study was conducted among organisational workers who had experienced attending various types of training programmes for the past six months. The participants might have participated in a training programme that related to either human resources, health and safety or specific skills. In this study, a cross-sectional design was employed to first examine whether any associations between training attitudes and well-being existed, after adjusting for other variables (demographic information, psychosocial characteristics). In addition, we also investigated the role of psychosocial characteristics on training attitudes.

1.6.3. Objective 3: To investigate the associations among psychosocial characteristics, training attitudes, well-being and academic attainment in undergraduate students

Moving from the cross-sectional design, the second study employed a longitudinal design with naturally occurring training (educational course), with undergraduate students as the sample. Undergraduate students were chosen as a sample because training and education share an essential element, both involving a learning process, where the main objective of both activities is to develop one's knowledge and skills,

and enhance human potential and talent (Garavan, 1997). In addition, due to the sample selection, it was important to include academic attainment as one of the outcomes. Thus, training attitudes were asked about in the context of the educational setting. Hence, we hypothesised that psychosocial characteristics and training attitudes influenced not only positive and negative well-being, but also academic attainment. Hierarchical regression was employed to test this hypothesis and, again, the influence of psychosocial characteristics on training attitudes was examined.

1.6.4. Objective 4: To assess the relationships among psychosocial characteristics, training attitudes, well-being and academic attainment in the context of personal development meetings and academic tutorials

Due to the limitations of previous studies, which emphasised various and broad training programmes (workers and students who attended various courses/classes), this objective was developed to focus on specific programmes. Two programmes that are compulsory for psychology students – personal development meetings (PDMs) and academic tutorials (ATs) – were examined. These programmes were different in nature, with different materials and objectives presented. Hence, we hypothesised that the attitudes to the different programmes might have a different effect on the students' levels of well-being. Hierarchical regression was employed to examine the association between the attitudes in both contexts (PDMs and ATs) on well-being and academic attainment, after controlling for the effect of psychosocial characteristics. Again, the influence of psychosocial characteristics on training attitudes were examined.

1.6.5. Objective 5: To examine the associations among psychosocial characteristics, training attitudes and well-being, in the context of a Doctoral Academy Programme, among post-graduate students

In parallel with the previous objective (objective 4), which emphasised specific programmes, this objective also focused on a specific programme; however, some additional variables were added, and a different sample was chosen. The Doctoral Academy Programme (DAP) was provided to help postgraduate students by aiming to develop their research and professional skills. The highlight of this objective was that participation in the DAP was entirely voluntary, with the students able to choose which workshops they wanted to participate in; their attendance scores were recorded. Hence, by asking the participants about their DAP attendance scores, along with their psychosocial characteristics, training attitudes and well-being, we hypothesised that those who attended several of the DAP workshops and who had positive psychosocial characteristics, along with positive training attitudes, would more likely experience positive well-being.

1.6.6. Objective 6: To investigate the associations among psychosocial characteristics, training attitudes and well-being in the context of various well-being intervention programmes

For the final objective, we employed various well-being interventions in the research. A longitudinal study was performed, using intervention groups that consisted of 1) students who took advantage of self-help resources; 2) students who attended emotional resilience workshops; and 3) university staff that chose to participate in various well-being workshops. The help and cooperation of external parties were required and two teams of trainers from Cardiff University agreed to distribute the questionnaire. By using the same variables, with a few new additional items, and

paying serious consideration to the practicality issues, we hypothesised that certain psychosocial characteristics were associated with training attitudes, and that both psychosocial and training attitudes influenced one's level of well-being.

1.7. Organisation of the thesis

Chapter 1 sought to understand the significant of the research undertaken and the rationale for studying the topic of interest. It provided a brief discussion of the research context (background information on both the training and well-being research fields), highlighting the knowledge gap and the objectives to be tackled in the study.

Chapter 2 discusses the definition of well-being, the theories or models that relate to both well-being and training, which are helpful in explaining the findings derived from the empirical studies. The chapter then provides a comprehensive review of the association between the psychosocial characteristics and well-being, while explaining the concept of each psychosocial variable. Next, a definition of each training attitude is provided, and a systematic review of the association between attitudes to training and well-being are presented. The chapter ends with a demonstration of the literature review regarding the relationship between psychosocial characteristics and training attitudes.

An exploration of the association among all the variables is reported in Chapter 3, in which the first empirical study examined the link between training attitudes and well-being simultaneously, most importantly in the context of training programmes. Using data collected from the cross-sectional design from organisational workers who had experienced attending various training programmes, the chapter provides information on the predictors of well-being, and shows that certain attitudes to training are associated with one's level of well-being.

Moving on from the cross-sectional design, Chapter 4 presents the longitudinal data from a cohort of first-year psychology students. These participants were initially sampled during the first week of term, and then a follow-up was performed towards the end of the semester. For this empirical study, there was a focus on naturally-occurring training, in which training attitudes were asked about in the context of an educational setting. The training questionnaire reflected the perception of the student's general attitudes towards various classes or subjects at university.

Whilst Chapters 3 and 4 focus on attitudes towards various training programmes, Chapter 5 emphasises student attitudes towards specific programmes. PDMs and ATs were selected. Again, a longitudinal design with two time-points was employed, with the students' attitudes towards each programme being recorded at Time 2. In this chapter, there is an investigation if their attitudes towards certain programmes that might differentially influence their well-being. A few new variables relevant to the aims and objectives of the research were added.

In parallel with Chapter 5, which focuses on the attitudes towards PDMs and ATs among undergraduate students, Chapter 6 reports on the investigation into the associations among all the variables, with the training attitudes being in the context of the DAP. A longitudinal design with two time-points was employed. This chapter highlights the importance of freedom in attending training programmes. The studies reported in the previous chapters did not have this element; the training programmes reported in Chapters 4 and 5 were compulsory.

For the final empirical study, Chapter 7 expands on the previous studies where a more specific content of the training programmes, designed to help the students and staff achieve better levels of well-being is examined. A longitudinal design, with three

phases of data collection was used, comprising before, immediately after and a month after the training programmes ended. This intervention study emphasised three groups – students who participated in an emotional resilience workshop, students who partook of self-help resources, and university staff who attended various well-being intervention workshops. Hence, all of the training attitudes items were based on the type of group the participants belonged to.

In the final chapter, the objectives of the thesis are summarised, the findings of all the studies are integrated and discussed in relation to the existing research, and related theories are applied to further explain the results. The chapter summarises the practical implications of the research and its strengths and weaknesses, and contains suggestions for future studies.

1.8. Conclusions

This chapter provided an overview of the thesis, gave the context for the research undertaken, presented an overview of the training and well-being research fields, highlighted the knowledge gap and the significance of the research, and outlined the aims of the thesis and the objectives unpinning each chapter. Before any empirical work was conducted, it was important to investigate the extent to which the subject had already been investigated. Hence, in the next chapter, reviews on the associations among all the variables and theories or models that relate to the subject are supplied.

Chapter 2:

Theoretical Framework and Literature Review

2.1. Introduction

Chapter 2 provides a theoretical perspective on both well-being and training, and a comprehensive review of the association between psychosocial characteristics, training attitudes and well-being literature. The chapter begins with a discussion regarding the theories or models that have shaped our understanding of well-being, training and the association between them. In addition, these theories or models were useful in explaining the results derived from our empirical studies. The chapter then focuses on literature examining the influence of psychosocial characteristics (personality, coping, work characteristics, commitment and OCB) on well-being. Following that, the literature review that is more systematic was presented to bring forward the association between attitudes related to training (motivation to learn, learning, transfer intention and cognitive dissonance) and well-being. The chapter also considers the relationship between psychosocial characteristics and training attitudes.

2.2. Well-being

Two well-being concepts that have been widely researched involve subjective and psychological aspects. In earlier years of subjective well-being research, there was more focus on how and why people experience their lives in positive ways that include cognitive judgments and affective reactions, with diverse terms being used, such as happiness, satisfaction, morale and positive affect (Diener, 1984). Subjective well-being has been defined and assessed in a variety of ways and comprises individual

feelings of happiness and high quality of life, but a common approach to operationalise subjective well-being is when one is satisfied with their life, experiences high positive affect and low negative affect (Diener, 2009; Ryan & Deci, 2000). Diener (1984) added that well-being can be grouped into three categories: 1) well-being is an external criterion such as virtue or holiness (which focuses on happiness); 2) well-being depends on how one evaluates one's life in positive terms (which focuses on life satisfaction); and 3) the frequencies of experiencing positive affect over negative affect.

Meanwhile, psychological well-being was developed in response to a perceived failure of the simplicity of subjective well-being. Psychological well-being was introduced to capture various humanistic concepts of well-being that related to one's identity, meaning and relatedness (Ryan & Deci, 2017; Ryff & Singer, 2008). Ryff (1995) proposed a six-dimensional model of psychological well-being comprising autonomy, environmental mastery, personal growth, positive relations, purpose in life and self-acceptance. According to Ryff (1995), self-acceptance was characterised as individuals that possess a positive attitude toward self, while autonomy is when one is self-determining and independent and able to resist social pressures to think and behave in particular ways. Next, positive relations with others consist of characteristics such as warm, satisfying, capable of strong empathy and affection, while personal growth includes feelings of continued development and being open to new experiences. With regard to purpose in life, it reflects individuals that have goals in life and a sense of directedness, and feel that their past and present life has a meaning. Lastly, environmental mastery means that one has a sense of mastery and competence in managing their environment and makes effective use of

their surrounding opportunities. Hence, those who experience high levels of all six dimensions can be said to have high psychological well-being.

In a major national longitudinal study, Midlife in the U.S. (MIDUS), Ryff, Radler and Friedman (2015) found that adults that experienced persistently high levels in all well-being domains had better unfolding health (subjective health, chronic conditions, symptoms and functional impairment) than those who persistently reported moderate well-being. Moreover, in a more recent MIDUS study, Urban-Wojcik, Mumfold, Almeida, Ryff, Davidson and Schafer (2020) revealed that positive emodiversity (more diverse positive emotions in 8 days) was associated with fewer symptoms of depression and anxiety, high satisfaction with life and fewer physical health symptoms and chronic conditions. Apart from examining the antecedents and consequences of psychological well-being, this concept has also been used to develop intervention studies aiming to increase individual well-being and physical health and decreased physical symptoms and sleep complaints. For example, the 8-week Lighten Up! Program helped improve psychological and social well-being, life satisfaction; the researchers also noted reduced depression, physical symptoms and sleep complaints among older adults after the programme end (Friedman, Ruini, Foy, Jaros, Sampson & Ryff, 2017). In particular, the positive outcomes of the programme continued six months later in significant and sustained declines in depressive symptoms, anxiety and hostility (Friedman, Ruini, Foy, Jaros, Love & Ryff, 2019).

However in the present study, the operationalisation of well-being is closely related to the definition of subjective well-being by Diener (1984), in which that individual has high positive well-being when they perceive that they have experienced a feeling of happiness, are highly satisfied with their life and always in a good mood.

On the contrary, those who have high negative well-being are defined as perceiving that their lives are full of stress, anxiousness and depression.

2.2.1. Theory/Model Related to Well-being

Individual well-being can be explained in terms of either positive or negative well-being aspects. Examples of the former include well-being theory (Seligman & Csikszentmihalyi, 2000), hedonic (Diener et al., 2010) or eudaimonic well-being (Ryff, 1989). The positive well-being aspects in well-being theory include both eudaimonic and hedonic well-being and incorporate unique components, such as engagement and achievement, which are less frequently included in other well-being theories (Seligman & Csikszentmihalyi, 2000). Negative aspects include stress models closely related to work, such as Lewin's person-environment fit model (1951), Siegrist's effort–reward imbalance model (1996) and de Jonga et al.'s (2000) Demand Induced Strain Compensation model. In particular, the person-environment fit model emphasised how the match between a person and the work environment influenced the individual's health. Lewin (1951) reveals that poorer fit between a person and the work environment with greater strains (and demand), which can lead to health-related issues, lower productivity and other work problems.

Two major distinctions between the two types of work stress models are interactional (or structural) approaches and transactional (or process) models. The former focus on structural characteristics of the stress process, such as which stressors are more likely to lead to which outcomes in which populations, while the latter focuses more on cognitive characteristics involving the dynamic relationship between individuals and their environment in terms of mental and emotional processes (Cox & Griffith, 1995). The transactional models were viewed as a complicated approach, as

these models emphasise the role of subjective perceptions of the environment and take into account the influence of individual factors, such as different coping strategies, personality, locus of control, and appraisal between individuals. The most well-known transactional models are Folkman and Lazarus's (1980) theory of psychological stress and coping and Cox's (1978) transactional model of occupational stress. Lazarus (1991) defined stress as an ongoing, coexisting, dynamic process, representing a relationship between an individual and the environment, that gives rise to a set of cognitive-emotional responses. In contrast to the emphasis that Folkman and Lazarus (1980) placed on two key concepts (appraisal and coping) in their theory, Cox and Ferguson (1991) gave more attention to clarifying structure and focused on occupational health and individual differences.

Essentially, the various stress and well-being models or theories share the same aim of empirically explaining the factors, process and consequences of stress and well-being within and between individuals. Researchers constructed these models/theories based on the limitations of previous models/theories, seeking to improve and enhance understanding in the field according to their knowledge and expertise in line with their beliefs.

To better understand the concept, antecedents and the outcomes of well-being, one particular model was used — the Demands, Resources and Individual Effects model. This model was chosen due to its comprehensiveness, flexibility and because most of the variables being explained in this model fit with our research framework, aims and objectives.

2.2.1.1. Demands, Resources and Individual Effects (DRIVE) Model

The DRIVE model (Mark & Smith, 2008) was developed to explain a work stress process that attempted to provide a balance between too little and too much complexity in stress-related research. According to its authors, some of the stress models (DCS – Demand, Control and Support model, DSS – Demand-Skill-Support model, DISC – Demand Induced Strain Compensation Model) were appropriate to gain an initial idea regarding how job characteristics could play a role in determining how healthy a workplace may be. However, these kinds of models are likely to fail due to the oversimplication assumption in which the same presence of an environmental stressor may produce the same stress between individuals.

Meanwhile, it was also noted that some of the stress models were excessively complex and complicated to understand, such as by applying a transactional perspective which placed more emphasis on the individual themselves (individual-centred view) than considering the role of individual differences and subjective perceptions within oneself. For example, as mention earlier, Lazarus and Folkman (1984) and Cox (1987) both emphasised the process of stressful transactions that take place within individuals when they experience a stressful environmental stimulus and the importance of appraisal and coping strategies for stress. These kinds of models were considered to be excessively complex due to the fact that they attempted to explain the stress process that begins with an individual perceiving the presence of the threat, analysing the possible effects of the threat and how to cope with it, predict possible outcomes, apply coping strategies, experience actual consequences and lastly apply feedback (Cox, 1987). Hence, the DRIVE model provides a middle ground between simplicity and complexity of the stress model and includes job characteristics

and acknowledging the input of various individual difference variables (Mark & Smith, 2008).

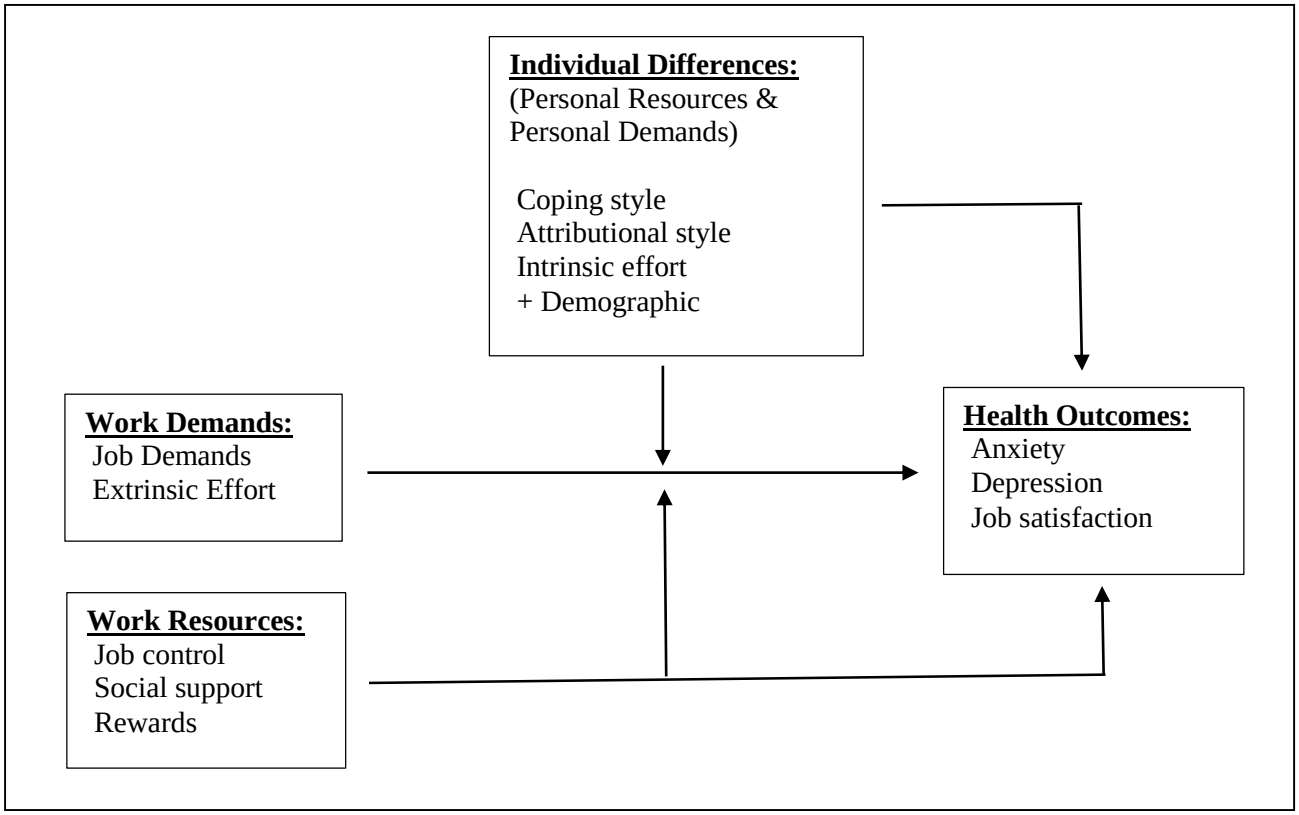
This model provides a combination of the elements of two well-known work stressor models — the DCS model (Karasek Jr, 1979) and effort-reward-imbalance (ERI) model (Siegrist, 1996) — and adds a crucial element — the influence of individual differences in determining ones' levels of positive and negative well-being, along with health-related outcomes (anxiety, depression and job satisfaction). The model proposed the importance of both psychosocial stressors (job demands, extrinsic effort, job control, social support and rewards) and individual difference (coping style, attributional style and intrinsic effort) factors in developing subjective experiences of stress or well-being.

Two versions of the models were proposed — simple and advanced DRIVE models. Figure 2.1 shows a simple version of the model, simultaneously comparing various job characteristics and individual differences and their influence on anxiety, depression and job satisfaction of organisational workers. The independent variables consist of a few key variables from the DSC model — job demands, social support, job control and skill discretion, some important elements of the ERI model — intrinsic and extrinsic effort and reward, and the main features of the transactional model — 40 types of coping behaviour, along with attributional styles and demographics information. Mark and Smith (2008) proposed that work demands, individual differences and work resources were expected to have main effect relationships on the outcomes (anxiety, depression and job satisfaction, or other outcomes — organisational commitment, heart disease, musculoskeletal disorders etc.). In addition, they also suggest that work resources and individual differences may have a

moderation effect between work demands and health outcomes. The simple DRIVE model was considered to provide more information and was slightly more complex than other 'simple' stress models (such as DSS, ERI and DCS), by including individual difference factors (individuals' subjective feelings about potential psychosocial stressors) in the model.

Figure 2.1

Simple DRIVE Model

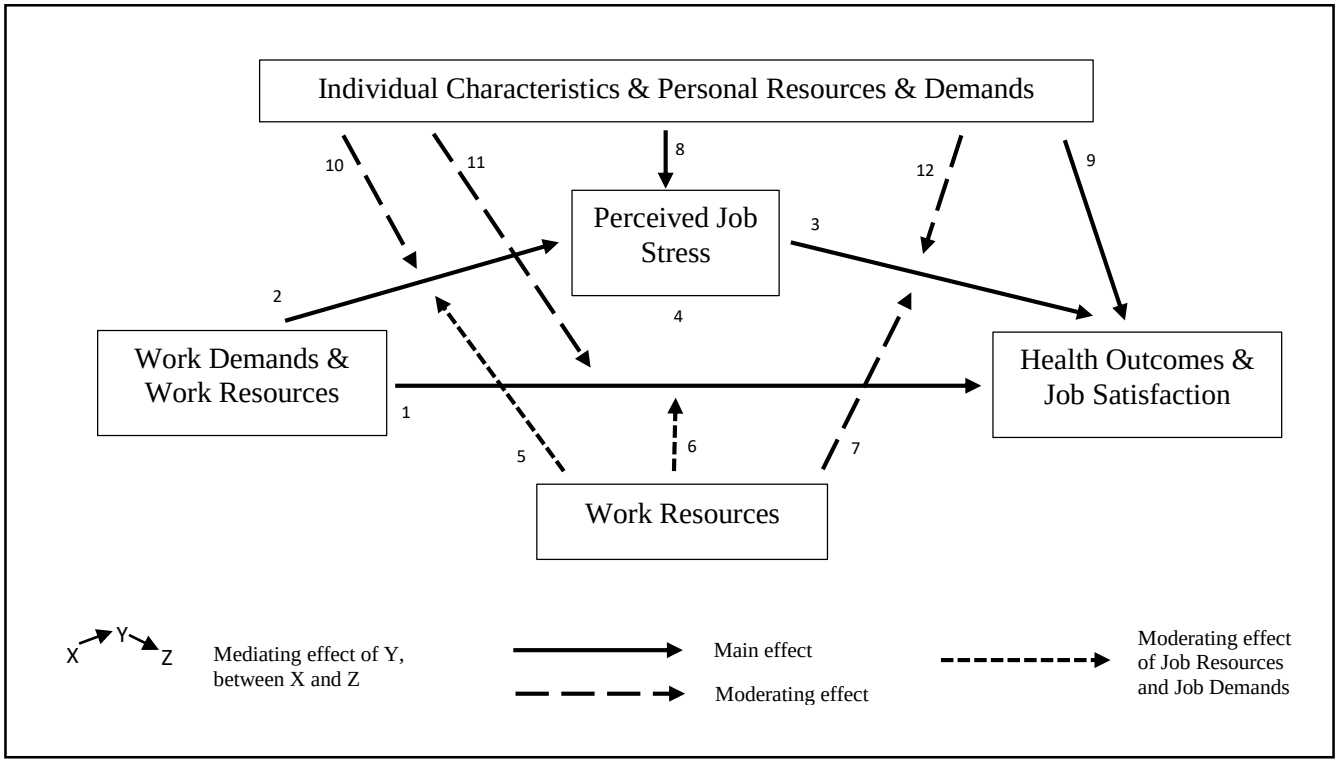


With regard to the enhanced DRIVE model, similar basic principles to the simpler version could be seen in this version; however, a perceived job stress variable was included. As shown in Figure 2.2, perceived job stress was expected to have a mediation effect between work demands/work resources and health outcomes. Mark and Smith (2008) suggest that individuals that experience psychosocial stressors

(particularly related to work) will not have any effect on their negative health outcomes (anxiety and depression) if they do not perceive that their work conditions are stressful. In addition, individual differences are proposed to have independent main effects on perceived job stress and health outcomes, and have moderation effects between work environment (work demands and resources) and perceived job stress relationship, and also between perceived job stress and health outcomes. This comprehensive model also emphasises flexibility, whereby any relevant organisational and personal variables can be introduced and inserted into the framework and be tested, either as predictors or outcomes.

Figure 2.2

Enhanced DRIVE Model



After the development of this model, both authors conducted a series of studies to demonstrate the accuracy of each proposed path. For example, research on nurses and university employees around the UK has revealed that 'positive' characteristics,

such as positive coping, positive job characteristics, positive attributional behaviour (internal and stable attributions for positive events) and social support were positively associated with low anxiety and depression, and high levels of job satisfaction. Meanwhile, negative characteristics, such as negative coping, negative job characteristics and negative attributional behaviour (internal and global attributions for negative events) were positively associated with high anxiety and depression and low satisfaction with their job (Mark & Smith, 2012a; Mark & Smith, 2012b). A significant interaction between over-commitment and intrinsic rewards in predicting anxiety could also be found, in which individuals with low levels of over-commitment were less anxious when they felt more rewarded, while for those who were over-committed, their anxiety levels were higher and reward (be it high or low) made no difference to their anxiety level (Mark & Smith, 2012). Most of the authors' studies support the DRIVE model that was outlined earlier (Mark & Smith, 2018; Mark & Smith, 2012a; Mark & Smith, 2012b).

In addition, some studies applied this model exclusively, within specific samples, such as among police officers (Nelson & Smith, 2016), railway staff (conductors, rail drivers, station workers, managers, etc.) (Fan & Smith, 2017, 2018), clinical psychologists, psychiatric nursing students, PhD students (Galvin & Smith, 2015), university staff (Williams, Thomas, & Smith, 2017), undergraduate students (Omosehin & Smith, 2018; Smith, 2018) and workers in Italy (e.g. migrant workers, eldercare workers, nurses) (Capasso, Zurlo, & Smith, 2016, 2018; Zurlo, Vallone, & Smith, 2018).

Due to the comprehensiveness and the flexibility of the model, more variables are being added into the framework to investigate the compatibility of the new

variables with the established predictors and outcomes. A few studies have used the DRIVE model and also examined the influence of work-life balance (work-family conflict and family-work conflict) on well-being (Fan & Smith, 2018; Omosehin & Smith, 2018), while most of Capasso and colleagues' (2018) research has included an ethnicity dimension into the DRIVE framework. Furthermore, Smith (2018) examined the effects of established predictors and cognitive fatigue on well-being and academic attainment and Ahmad, Firman, Smith, and Smith (2018) added psychological contract fulfilment into the framework.

Hence, this model was viewed as being most suitable for the present study due to the fact that most of the variables in this study were originally taken from this model, particularly the psychosocial characteristics (the positive and negative aspect of job characteristics, and individual differences — positive and negative coping, personality) and the outcomes (positive and negative well-being). Other psychosocial characteristics such as commitment and OCB were also added, and most importantly the present study highlighted the new variable that related to attitudes to a training programme (motivation to learn, learning, transfer intention and cognitive dissonance) that were included into the framework.

2.3. Training Attitudes

Training attitudes in this study comprised four main variables, namely motivation to learn, learning, transfer intention and cognitive dissonance. The main aim of the present study is to explore the association between these attitudes in the context of a training programme on one’s level of well-being. The conceptual definition and operationalization of each attitude was explained along with the systematic review that

presented the empirical studies on the relationship between these attitudes on well-being.

2.3.1. Theories/Models Related to Training Attitudes

To better understand the training attitudes-well-being relationships, two theories/models that related to training were presented — self-determination theory and cognitive dissonance theory. These theories were useful to explain the results derived from our empirical studies.

2.3.1.1. Self-Determination Theory

Self-determination theory (SDT) was introduced by Deci and Ryan in the 1980s, offering a wide range of frameworks for better understanding the factors that promote human motivation and psychological flourishing (Ryan & Deci, 2017). Self-determination theory is an empirically based, organismic human behaviour theory involving development of personality. In addition, the theory examines all conditions within individuals (biological, social and cultural) which either enhance or undermine the inherent human capacities for psychological growth, engagement and wellness, both in general and in specific domains and endeavours.

This theory demonstrates that supporting people's basic needs for competence, relatedness and autonomy is critically important for virtually all aspects of individual and societal functioning (Ryan & Deci, 2000). The relationship between self-determination and development, behaviour, performance and well-being is based on motivation processes, where they applied motivational concepts to address these important human issues (Ryan & Deci, 2017). Motivation is related to what 'moves' people to action; motivation theories focus on what both energises and gives direction to behaviour. The application of motivation in SDT has emphasised specifically the

different types and sources of motivation that impact the quality and dynamics of particular behaviours. SDT suggests that certain forms of motivation are volitional, reflecting an individual's interests or values, or the motivation could be external, where one performs a specific behaviour due to being pressured despite not finding any value in that behaviour.

Furthermore, the analysis of SDT was focused primarily at the individual psychological level and explained and differentiated motivational types as a continuum from controlled to autonomous ones (Ryan & Deci, 2017). Autonomous and controlled motivation were derived from empirical studies on intrinsic motivation (Deci, 1983). Intrinsically motivated behaviours were performed due to interest and an expectation to receive a 'reward' in which the person will experience spontaneous feelings of effectance and enjoyment that accompany the behaviours. On the other hand, extrinsic motivation behaviour was performed due to specific consequences, for example external reward or social approval, to avoid punishment, or to receive a valued outcome (Ryan & Deci, 2000). In other words, autonomous behaviour is closely related to intrinsic motivation because a person acts according to their own willingness and emanating from their own selves, while extrinsic motivation could be placed between an autonomous and controlled continuum (Ryan & Deci, 2017). For example, an individual can be extrinsically motivated to evade punishment or to receive an external reward, in which one's behavioural regulation is characterised as being relatively controlled, but one may also be extrinsically motivated to perform certain behaviours because each specific behaviour yields outcomes that are personally valued or important, in which the behaviour is more likely to be experienced as relatively autonomous.

SDT suggests that extrinsic motivation may involve more or less internalisation to or congruent with one's self, where the degree of internalisation reflects that the extent of behavioural regulation is relatively more autonomous or controlled. Meanwhile, behaviour that is externally regulated, in which the behaviour is directly controlled by external factors and self-alien forces, on the other hand behaviour can be controlled through introjection, where one has taken in but not fully accepted external controls. Behaviour that is performed due to introjected motivation is more likely to be driven by guilt, shame, contingent self-esteem and fear of disapproval (Ryan & Deci, 2017). According to these authors, both external and introjected types of regulation are involved in the controlled motives, but these two types differ in both the nature of the phenomenal drivers and the behaviour qualities that follow from them. In other words, external regulated behaviour is more driven in terms of the related consequences of rewards and punishment, while introjected motivation is more internally driven and the behaviour can still be performed even when external consequences are absent, but it is more related to feelings of internal pressure, tension and conflict.

Furthermore, SDT proposes that extrinsic motivation can also be more autonomous rather than controlled through an individual's identification with and one's accepting of the extrinsic behaviour value. The theory also claimed that extrinsic motivation can be even more autonomous if such identifications are integrated with one's own values and beliefs. Both identification and integration of extrinsic motivation are more autonomous and the behaviours produced are more volitional, with the quality of persistence and performance being much better than behaviours derived from controlled motives. Ryan and Deci (2017) added that the more autonomous the motivational form, the more an individual has access to organismic

support to perform a particular behaviour, which explains the energetic, affective and cognitive advantages of autonomy as characteristics of action.

Apart from intrinsic and extrinsic motivation, which also represents intentional and personally caused action (Ryan & Deci, 2000), another type of motivation is amotivation, which describes an individual's lack of intention and motivation (Ryan & Deci, 2017). In other words, this concept assesses to what extent individuals are passive, ineffective or purposeless with regard to any potential behaviours. Amotivation within the context of SDT can be in many forms: first, people do not perform certain behaviours because they think that they are unable to effectively attain the behaviour's outcomes. They have the perception that they cannot control the outcomes, or feel helplessness, and they also perceive that they personally cannot perform the required actions. Second, amotivation is developed not due to one's incompetence, but rather from lack of interest, relevance or value. People remain amotivated if the behaviour is meaningless or uninteresting to them, particularly if the behaviour is unrelated to one's needs of fulfilment. The third type of motivation is related to defiance or resistance influence, where people perform amotivation for specific acts to show motivated nonaction or purposely behave as an opposite to go against certain demands that prevents one's fulfilment of basic needs of autonomy and relatedness. Ryan and Deci (2017) conclude that different types of amotivation have a different duration and impact, also with their own uniqueness in relation to determinants and dynamic implication.

This theory has been widely used and applied in many areas, such as school and learning, workplace motivation, sport and exercise, health care and psychotherapy, cultural and religious socialisation, and virtual words (Ryan & Deci,

2017). Because this theory describes a human's development, performance and well-being based on motivational processes, we presume that motivational factors in the present study are closely related to SDT. In addition, due to the fact that one of this study's focuses is to investigate motivation in the context of development, which measures an individual's level of motivation to learn and learning in the context of training programmes, and its relation to their positive and negative well-being, we expected that SDT would be able to explain the association between these constructs in more detail.

2.3.1.2. Cognitive Dissonance Theory

Cognitive dissonance theory was first introduced by Festinger (1962) within the field of social psychology. According to this theory, dissonance is defined as a negative affective state that was produced from an individual experiencing two discrepant cognitions. Meanwhile, cognitions were broadly defined as any mental representation that includes attitudes, beliefs, or knowledge of individuals. By using the mathematical equation: $M = D/(D+ C)$ to describe dissonance, Festinger (1962) explained that *M* is the magnitude of dissonance experienced (the level of discomfort), while *D* is the sum of cognitions that are dissonant from a referent cognition and *C* is the number of cognitions that are consonant with the same referent cognition.

This theory implies a four-step process that begins with cognitive discrepancy, followed by the experience of dissonance, then a motivation process to reduce dissonance and finally discrepancy reduction. Regarding the first step, it was suggested that the dissonance arousal process begins when one experiences an inconsistency between two or more cognitions. There are many possible scenarios that can lead to cognitive dissonance; for example, counter-attitudinal behaviours (when

individuals act in a way that contradicts their own beliefs), free choice (when individuals need to make a choice between the desire to choose the best alternative or choose from the available imperfect alternatives) and effort or behavioural commitment (when individuals put increased effort or behavioural commitment which leads them to find ways to support this commitment because they attempt to achieve behavioural consistency) (Hinojosa, Gardner, Walker, Cogliser, & Gullifor, 2017).

In the second stage, where dissonance occurs, it refers to the negative affective state experienced by individuals in response to cognitive inconsistency. According to Cooper (2011), individuals prefer to have cognitive consistency and will experience unpleasant feelings when they encounter a break in consistency. As suggested by Festinger (1962), the magnitude of dissonance depends on the elements (cognition, knowledge or beliefs) between which the relation of dissonance holds. If one experiences two elements that are contradicted with each other, the magnitude of the dissonance will be a function of the importance of the elements — in other words, the more the elements are important to, or valued by the person, the higher will be the magnitude of a dissonance relation between them.

Next, in the third step, individuals are considered to be motivated to reduce the dissonance because the negative affective state of dissonance serves as motivation to alter the experience of cognitive discrepancy. Festinger (1962) proposed that individuals who encounter cognitive inconsistency and experience the effect of the dissonance will find ways to restore cognitive consistency to make themselves in a more pleasant state. As mentioned by Harmon-Jones, Amodio and Harmon-Jones (2009), the action-based approach suggests that the uncomfortable negative affective

state motivates discrepancy reduction because unsettling dissonance interferes with effective action.

The final stage of this theory was termed discrepancy reduction, which involves the assumption that one can reduce dissonance by altering or adjusting one's cognitions. Because dissonance exists due to two or more cognitions that are contradicted, by changing one of those elements, such dissonance can be eliminated (Festinger, 1962). The latter author added that to minimise the effect of cognitive dissonance, people could alter the cognitions that are the least resistant to change. There are various possible ways to accomplish dissonance reduction, such as changing a behavioural cognitive element, changing an environmental cognitive element or adding new cognitive elements. Festinger (1962) proposed that when one experiences dissonance due to conflicted elements, for example inconsistency in some knowledge concerning environmental and behavioural elements, the dissonance can be eliminated by changing the behavioural cognitive element so that it is consonant/consistent with the environmental elements.

Another way in diminishing dissonance is manipulating the environmental cognitive element by changing the situation to which that element corresponds. For example, people who are habitually hostile toward others may surround themselves with persons who provoke hostility, rather than befriend a passive and kind person. Lastly, by adding new cognitive elements, dissonance could also be eliminated. Individuals that experience dissonance (e.g. smokers who are aware of the bad effects of smoking) may be expected to actively seek new information that would reduce the total dissonance and avoid new information that might increase the existing dissonance; for example, smokers finding information related to accidents and death

rates in car accidents, subsequently considering that the danger from smoking is insignificant. Hence, the dissonance could be somewhat reduced by minimising the importance of the existing dissonance.

Cognitive dissonance theory has been widely used in social psychology and management research (Hinojosa et al., 2017). In management research, this theory was used to explain organisational behaviour by manipulating certain dissonance scenarios (Dineen, Ash, & Noe, 2002; Millward, Haslam, & Postmes, 2007; Sivanathan, Molden, Galinsky, & Ku, 2008). However, in the training research field, the use of this theory is rather limited. The idea of using this theory to explain the unsuccessfulness of transfer of training, where trainees are unable to transfer knowledge and skills learned from training programmes into the work setting, was introduced by Weisweiler, Nikitopoulos, Netzel and Frey (2013). They suggested that trainees may be presented with new information that somehow differs from what they used to think, and by having two or more cognitions that are contradictory regarding the same fact, a feeling of dissonance results. In addition, to reduce the feeling of dissonance, trainees may feel that it is easy to search for information supporting their prior belief and simply ignore the new information (Weisweiler et al., 2013), potentially encountering difficulty in transferring the training programme content into their work.

Due to the fact that cognitive dissonance produces the uncomfortable negative affective state (dissonance), we also hypothesised that individuals that experience cognitive inconsistency with regard to applying new knowledge and skills acquired in training programmes into their daily life also experience more negative well-being (stress, anxiousness and depression). To provide evidence for this statement, we

reviewed articles related to cognitive dissonance and its association with any well-being outcomes, towards the end of the chapter.

2.4. Review of the Literature on Psychosocial Characteristics, Training Attitudes and Well-being

The main aim of this study is to examine the association between psychosocial characteristics, training attitudes and well-being. To better understand each association, the literature review was presented in three separate sections. First, the empirical studies on psychosocial characteristics and well-being were demonstrated, where the definition of each psychosocial characteristic along with their influence on well-being were presented. Then, a systematic literature review regarding the association between each training attitude and well-being was provided. Finally, the predictors of training attitudes, which also consider psychosocial characteristics as the factors in determining the attitudes to training, were presented.

2.4.1. Empirical Studies of Psychosocial Characteristics and Well-being

Well-being could be influenced by numerous factors ranging from personal to work-related characteristics. For the purpose of this study, five main psychosocial characteristics: personality, coping strategies, work characteristics (work demand, support and control), OCB, and commitment, were investigated as the predictors of well-being. Hence, in this section, a literature review regarding the influence of these psychosocial characteristics on well-being is presented, followed by the justification of choosing these variables in the pursuit of our research's aims and objectives.

2.4.1.1. Personality and well-being

The relationship between personality and well-being has received substantial research attention, with certain personality traits associated with well-being. This often includes

positive personality traits associated with positive well-being, and negative personality traits associated with negative well-being. Personality is defined as the individual differences in general patterns of cognition, emotion and behaviour (Conley, 1985), and these patterns evolve from both biological and environmental factors (Corr & Matthews, 2009). Furthermore, examinations of the connection between personality and well-being have been conducted on various populations, such as workers (Burns & Machin, 2010; Plopa, Plopa, & Skuzińska, 2017; Zhai, Willis, O'Shea, Zhai, & Yang, 2013), students (Cheng, Cheung, Montasem, & Int Network Well-Being, 2016; Harris, English, Harms, Gross, & Jackson, 2017; Hudson & Fraley, 2016; Lui, Rollock, Chang, Leong, & Zamboanga, 2016) and older adults (Bryant et al., 2016; Henning, Hansson, Berg, Lindwall, & Johansson, 2017).

One of the most widely used personality model, called the Big Five personality traits, consists of extraversion, agreeableness, openness, conscientiousness and neuroticism, and has been found to play a significant role in determining specific outcomes of well-being. To begin to understand these traits, extraversion is a trait frequently associated with being sociable, gregarious, talkative, active and assertive (McCrae & Costa, 2003). It is positively associated with subjective well-being (Zhai et al., 2013), positive affect (Burns & Machin, 2010), hedonic, eudemonic and social well-being (Lui et al., 2016), psychological well-being (Burns & Machin, 2010), life satisfaction (Halama, Martos, & Adamovova, 2010; Hudson & Fraley, 2016; Wilt, Grubbs, Exline, & Pargament, 2016), happiness, purpose in life and self-esteem (Halama et al., 2010), and negatively predicted depression (Wilt et al., 2016). Harris et al. (2017) further noted that students that scored high in extraversion were more socially connected than students with low extraversion; thus, this trait could lead to better life satisfaction in college. As these students were generally more socially

connected, they would experience a sense of belonging and would therefore feel happier as university students than their counterparts with lower extraversion.

Next, individuals with high conscientiousness traits are found to reflect dependability, and this involves behavioural aspects such as being careful, responsible, planful, thorough and organised (McCrae & Costa, 2003). Furthermore, they have been found to be positively associated with subjective well-being (Zhai et al., 2013), are high in positive affect (Burns & Machin, 2010), life satisfaction (Halama et al., 2010; Hudson & Fraley, 2016; Wilt et al., 2016), self-esteem (Halama et al., 2010; Wilt et al., 2016), all domains of psychological well-being (Burns & Machin, 2010) and happiness, purpose and meaning in life (Halama et al., 2010). In addition, a negative association could also be seen between this trait and depression (Wilt et al., 2016). Meanwhile, those who have high openness traits are described as being imaginative, cultured, original, curious, broad-minded, intelligent and artistically sensitive (McCrae & Costa, 2003), and this has been found to positively predict satisfaction with life (Wilt et al., 2016), happiness and purpose in life (Halama et al., 2010).

With regard to agreeableness, this was found to reflect traits associated with being courteous, trusting, flexible, forgiving, cooperative, tolerant and soft-hearted (McCrae & Costa, 2003), and was found to be positively related with positive affect (Burns & Machin, 2010), life satisfaction (Halama et al., 2010; Hudson & Fraley, 2016; Wilt et al., 2016), and all dimensions of psychological well-being (Burns & Machin, 2010). Furthermore, Halama et al. (2010) revealed in their study that the agreeableness trait had a positive association with happiness, purpose in life and self-esteem. For the last dimension - neuroticism, it is often found to be associated with

common traits of being anxious, angry, embarrassed, emotional, worried, insecure and depressed, and was shown to have a significant contribution to various aspects of negative well-being, such as low subjective well-being (Plopa et al., 2017; Zhai et al., 2013), high negative affect (Burns & Machin, 2010), less satisfaction with their lives (Halama et al., 2010; Hudson & Fraley, 2016; Wilt et al., 2016), low self-esteem (Halama et al., 2010), and higher levels of anxiety and depression (Wilt et al., 2016).

The above findings are some of the examples that examine the associations between types of personality traits and well-being outcomes. However, their cross-sectional design means that the associations are limited to causal effect relationships. Therefore, other studies implemented a longitudinal design to examine the causal relationship between variables. For example, Hudson and Fraley (2016) sought to understand the associations between an individual's desire and attempts to change personality traits and psychological well-being within 16 weeks. The study findings revealed that students whose objectives included increasing their conscientiousness and openness traits also appeared to decrease their levels of life satisfaction and positive affect over time. However, students who did not have any intention of changing their conscientiousness were predicted to increase their life satisfaction each month. Furthermore, students who reported an actual increase in any personality traits were prone to experiencing better life satisfaction and positive affect while being low in negative affect. This study thus concluded that certain changes in personality traits might increase or decrease an individual's level of well-being over time.

In comparison to combining cross-sectional and longitudinal design, a diary study also offers a better and deeper understanding of the impact of personality on individual well-being. For example, Howell, Ksendzova, Nestingen, Yerahian and

Iyer (2016) concluded that people who experienced traits of being less neurotic but more agreeable, conscientious, extraverted and open on a particular day felt happier and experienced positive emotions on the same day. Howell et al. (2016) further explain this supposition, stating that when people experienced more positive emotions on a particular day, it was due to the personality state that they experienced on that day. For example, people who scored high in states of agreeableness, extraversion and conscientiousness on a particular day would encounter less negative emotion on that day, since their need for relatedness and personal competence was being fulfilled.

The above studies discussed in detail the type of personality traits that are strongly associated with well-being. Knowing the total variance in explanations regarding personality as a whole for predicting personal well-being is also vital to provide an overview of the impact of personality on well-being. Research has demonstrated that personality as a whole explains more than 20% of the variance in well-being for various outcomes (Strickhouser, Zell, & Krizan, 2017; Sun, Kaufman, & Smillie, 2017; Tanksale, 2015). In fact, even after controlling for other variables, especially demographical information, such as age, gender, family system, birth order, monthly incomes and residential status, it was still found that personality traits of extraversion, conscientiousness and neuroticism were associated with psychological well-being (Arshad & Rafique, 2016). Meanwhile, Lin (2014) has revealed that after taking out the effect of gender and age, agreeableness was positively associated with life satisfaction and positive affect, and neuroticism was negatively associated with life satisfaction and positive affect.

Moreover, when personalities were included in the hierarchical regression as the control variables, and the other construct was included, such as emotional

intelligence, it was revealed that emotional intelligence did not demonstrate a significant incremental validity over the personality variables for predicting various psychological well-being criterion (global severity index, coping, life satisfaction, self-esteem and alcohol use) (James, Bore, & Zito, 2012). On the other hand, others have found that emotional intelligence was significantly associated with psychological well-being (self-acceptance, positive relations with others, autonomy, environmental mastery, life purpose and personal growth) (Augusto Landa, Martos, & Lopez-Zafra, 2010) and subjective well-being (life satisfaction and affect balance) (Koydemir & Schütz, 2012) after controlling for the effect of personality types.

Apart from emotional intelligence, social desirability also significantly predicted subjective well-being domains (life satisfaction, positive and negative affect) after controlling for the effect of personality (Brajša-Žganec, Ivanović, & Kaliterna Lipovčan, 2011). In addition, when social desirability was being controlled, only certain types of personalities, particularly extraversion, conscientiousness and emotional stability, positively influenced subjective well-being domains. In addition, it was demonstrated that certain types of life aspirations (e.g. intrinsic or extrinsic factors of importance, likelihood and attainment) contributed, although modestly, and explained subjective well-being over and above the influence of personality domains (Romero, Gómez-Fraguela, & Villar, 2012). Similarly, Wilt et al. (2016) showed that a positive perception of religious and spiritual struggles significantly predicted a modest amount of variance in various well-being outcomes (life satisfaction. self-esteem, depression and anxiety), even when personality domains were controlled for.

In summary, the literature highlighted that the individual's personality is a crucial factor in determining the level of well-being. Studies with varied research

designs (e.g. cross-sectional, longitudinal, diary studies) have revealed that high levels in certain dimensions of personality can predict significantly positive well-being. Furthermore, the authors saw personality as a robust variable, even after controlling for other factors such as demographic information, and this factor remained significant when predicting well-being. Due to the importance of this variable, it was treated as one of the establishing factors that needed to be controlled for to determine the other variables that could serve as predictors of well-being level. Hence, in the present study, the effect of personality, along with other psychosocial characteristics, were controlled for in order to investigate the association between training attitudes (motivation to learn, learning, transfer intention and cognitive dissonance) and well-being.

2.4.1.2. Coping and well-being

The next psychosocial characteristics that will be discussed are coping strategies. To begin, coping strategies can be defined as a continuous effort to manage specific demands that are perceived by the individual as being beyond their resources (Lazarus & Folkman, 1984), and various type of coping strategies could predict the level of well-being of an individual. A large and growing body of literature that investigated the role of coping strategies on well-being was first conducted more than three decades ago. The associations between coping strategies and well-being can also be seen in groups ranging from preadolescents (Chua, Milfont, & Jose, 2015) to elderly people (Carmel, Raveis, O'Rourke, & Tovel, 2017), and these studies involved school students (Barendregt, Van der Laan, Bongers, & Van Nieuwenhuizen, 2015), university students (Liu, Li, Ling, & Cai, 2016), workers (Rabenu, Yaniv, & Elizur, 2017), patients (Kaliampos & Roussi, 2017; Kroemeke, 2016) and others.

The conceptualisation and operationalization of coping strategies in the research also varied. Researchers have examined active and passive coping strategies (Barendregt et al., 2015), reflective, suppressive and reactive coping (Akhtar & Kroener-Herwig, 2017), positive and negative coping (Liu et al., 2016; Meng & D'Arcy, 2016), adaptive and maladaptive coping (Chua et al., 2015), and reactive and proactive coping (Carmel et al., 2017; Stiglbauer & Batinic, 2015), while the most widely used perspective involved problem-focused and emotional-focused coping strategies (Kroemeke, 2016; Lin, 2016; Mayordomo, Viguer, Sales, Satorres, & Meléndez, 2016).

The literature has demonstrated that individuals who frequently applied more positive coping to deal with problems (e.g. problem solving, somatic relief and spirituality), had a negative association with distress and predicted a higher level of psychological well-being. In contrast, negative coping, characterised as using internal and external avoidance, and self-destructive behaviours held the greatest influence in predicting distress for a sample population consisting of individuals diagnosed with physical and psychiatric disease (Meng & D'Arcy, 2016). Similarly, those who consistently looked for help had a high satisfaction with life, experienced more positive affect and less negative affect (Liu et al., 2016). Conversely, those who avoided facing problems and used maladaptive strategies (use of tobacco and alcohol) had a higher tendency to experience negative affect. Liu et al. (2016) concluded that by receiving social support from family and friends, individuals had assistance in becoming more confident in themselves, and hence assisted in increasing their level of life satisfaction and positive affect while reducing their negative affect.

In addition, a decrease in the use of maladaptive coping strategies, including avoidance, externalisation and rumination over time, provided an improved sense of well-being among adolescents (Chua et al., 2015). Chua et al. (2015) claimed that such adolescents felt happier with their weight, were full of energy or vitality and had improved sleep sufficiency. Also, the implication of using problem-focused coping, which consists of problem-solving coping, positive reappraisal and seeking social support, has been found to influence resilience, which in turn improves the individual level of well-being (Mayordomo et al., 2016). Mayordomo et al. (2016) added that the use of emotion-focused coping, such as negative self-focused coping, religious coping, seeking social support, avoidance coping and overt emotional expression, had an adverse effect on adult mental health, and could potentially result in the development of emotional disorders (e.g. anxiety and depression).

The above studies represent research examining the effect of coping strategies on well-being within the same population sample. Some studies compared the association between these variables between groups within a particular population. For example, Akhtar and Kroener-Herwig (2017) revealed that samples from different backgrounds, such as students belonging to specific cultural groups, applied different types of coping strategies, leading to distinctive levels of well-being outcomes. It was demonstrated that Asian students used suppressive coping that consisted of denial and avoidance, when facing undesirable situations, while Latin American students used reflective coping, consisting of planning and apply systematic approaches in more cases as compared to other groups (Akhtar & Kroener-Herwig, 2017). A use of suppressive coping predicted a lower level of psychological well-being for all groups, whereas reflective coping predicted a high level of psychological well-being. Akhtar & Kroener-Herwig (2017) also claimed that the application of reflective coping was

better than suppressive coping in helping to achieve greater well-being, because having an alternative plan to face stressful situations was much better than avoiding thinking about the problem. The avoidance practiced by the latter would make the situation worse and would result in the avoider feeling more depressed and anxious.

The literature has indicates that coping strategies are a crucial predictor in determining a person's level of well-being. Even after controlling other factors, such as demographic information, the authors found a significant association between these variables. For example, Lee, Besthorn, Bolin, and Jun (2012) revealed that spiritual and support coping was negatively associated with depression, while life satisfaction was related to a high support of coping among older adults, after controlling for the effect of age, gender, driving capability and perceived stress. This result was in line with Fortes-Ferreira, Peiro, Gonzalez-Moralez, and Martin (2006), where they demonstrated that after controlling for gender, ages and work stressors, direct action coping (e.g. look for ways to make work more interesting, plan ahead) was positively associated with job satisfaction, and negatively related to psychological distress and psychosomatic complaints. On the other hand, Kraaij et al. (2008) revealed that positive refocusing and catastrophizing were significantly associated with depression and anxiety, after controlling for HIV characteristics (time since diagnosis, CD4 level and viral load) among HIV patients.

Moreover, coping strategies demonstrated significant incremental validity over demographic (age and gender) and socioeconomic variables (parents' educational level and monthly income) for predicting hedonic well-being (Chang et al., 2019). They revealed that mental and behavioural disengagement, instrumental support, active coping, and humour were significantly associated with satisfaction with life

over and above the influence of demographic and socioeconomic variables. Meanwhile, positive reinterpretation, mental and behavioural disengagement, denial, humour, and planning predict positive affect, and happiness can be predicted by high positive reinterpretation, low denial and venting emotions and high humour, once the effect of both demographic and socioeconomic factors are taken out (Chang et al., 2019). Chang et al. (2019) added that when coping strategies were included as control variables, optimism demonstrated significant incremental validity for predicting life satisfaction, positive affect, and happiness.

Moreover, Mark and Smith (2012a) demonstrated that problem-focused coping, seeking advice, and self-blame were associated with anxiety, while depression was related to problem-focused coping, self-blame and avoidance coping strategies over and above the effect of various job characteristics (e.g. job demands, support, skill discretion, reward, effort, over-commitment).

To summarise, the literature has shown that positive well-being outcomes can be predicted by positive coping strategies, while negative coping strategies are closely related to negative well-being outcomes. Moreover, the association between coping and well-being is quite robust as this relationship would remain significant even after controlling for other variables. Hence, in the present study, we hypothesized that individuals who applied more positive coping when facing difficult situations are expected to experience positive well-being, while those who applied negative coping are more prone to encounter with negative well-being. Additionally, to better understand the association between training attitudes and well-being, the effect of coping was controlled for as one of the established factors in this

study. Another reason for this choice was the fact that this variable was seen to be quite robust.

2.4.1.3. Work characteristics and well-being

A considerable amount of literature has been published on the effect of job or work characteristics on the well-being levels of individuals'. Job characteristics are defined as the motivational elements that explain and give impact to the meaning, responsibility and knowledge related to work activities as experienced by the employee (Loher, Noe, Moeller, & Fitzgerald, 1985).

According to Hackman and Oldham (1975), job characteristics have five core aspects, consisting of skill variety, task identity, task significance, autonomy and feedback, all of which can be measured by using the Job Diagnostic Survey. These five core variables have an effect on three important psychological states, namely the experience of meaningfulness, the experience of responsibility for outcomes, and knowledge of the actual results. This leads to five work-related outcomes: motivation, satisfaction, performance, absenteeism and turnover. Meanwhile, Karasek et al. (1998) developed the Job Content Questionnaire (JCQ), one of the most widely used instruments to assess psychosocial job characteristics, based on the job-demand control model. The JCQ measures decision latitude or job control, psychological job demand, and workplace social support.

Research on the role of job characteristics on well-being has been investigated in various work settings, such as among university staff (Williams et al., 2017), psychotherapists (Reis & Hoppe, 2015), civil servants (Rydstedt, Ferrie, & Head, 2006), health service employees (Pisanti et al., 2015; Sonnentag & Zijlstra, 2006),

bank employees (Houkes, Janssen, de Jonge, & Bakker, 2003), coastguards (Smith, 2012), police officers (Nelson & Smith, 2016), and students (Galvin & Smith, 2015).

Research has found that workers who possess high levels of job latitude or control and who have received better social support from co-workers and supervisors tended to experience a higher level of job satisfaction (Pisanti et al., 2015; Rydstedt et al., 2006; Smith & Smith, 2016) and lower levels of anxiety and depression (Mark & Smith, 2012), while being associated with higher levels of personal accomplishment (Pisanti et al., 2015). On the other hand, employees with high perceptions of work demand also scored higher in perceived stress at work (Calnan, Wadsworth, May, Smith, & Wainwright, 2004; Smith & Smith, 2016), felt anxious and depressed (Mark & Smith, 2012), tended to be faced with psychological disorders, such as obsessive compulsive disorder, paranoid ideation and psychoticism, and poorer general health (Capasso et al., 2018), and were associated with higher levels of emotional exhaustion and somatic complaints (Pisanti et al., 2015).

The above example examined the association between work characteristics and various well-being domains within the same sample. To better understand the nature of different work characteristics between various samples and its association with well-being, a comparison study is needed. Research done by Galvin and Smith (2015) revealed that sample populations from different settings and backgrounds experienced different levels of job characteristics; for example, trainee clinical psychologists received more resources and experienced higher job demand than PhD students and nursing students. However, regardless of the different settings, all participants showed that job demand and core self-evaluation were the most important predictors of ill psychological health. Job demand and negative childhood experiences were also the

most essential predictors of perceived work stress, while job resources and core self-evaluations were the most important predictors of job satisfaction (Galvin & Smith, 2015).

When the need for recovery was taken into consideration as one of the outcomes of job characteristics, well-being and fatigue, Sonnentag and Zijlstra (2006) revealed that employees with high job demand and low job control also scored higher in the need for recovery, in fatigue, and in well-being. In addition, the need for recovery was discovered to be a mediation variable between job demand and control, especially with respect to situational constraints, daily hazards, the lack of support, and fatigue. Sonnentag and Zijlstra (2006) explained that this happened because the employees had a perception that working conditions were unfavourable, and it exhibited particularly troublesome difficulties and complications, which required extra effort to overcome. This made them feel like they needed more time to recover and felt more tired, thus experiencing a lower level of well-being.

In addition to examining the direct influence of work characteristics on well-being domains, studies have investigated the roles of other variables acting as mediator and moderator of the relationship between work characteristics and well-being. As an example, Taris and Wielenga-Meijer (2010) assessed workers' personal initiative as a moderator of the relationship between job characteristics and well-being. It was revealed that high job control had a positive association with an employee's well-being (defined as learning motivation and emotional exhaustion). Furthermore, personal initiative was related to low emotional exhaustion and high learning motivation, and moderated the advantages of job control in learning motivation. These findings were in line with De Lange, Taris, Kompier, Houtman, and Bongers (2003), who claimed

that low job control and high demand were related to low affective well-being and high strain. De Lange et al. (2003) mentioned that workers might face work overload when they reported high demand, and having low control could mean that workers lacked the opportunity to decide how to optimally deal with the demands they face. These situations would then lead to psychological stress reactions and low affective well-being (De Lange et al., 2003).

In contrast, Willemse et al. (2015) examined person-centeredness among healthcare staff in relation to their job characteristics and well-being, and the results reveal that person-centeredness, or overall positive attitudes of the nursing staff towards people with dementia, moderated the relationship between the support of co-workers and supervisors, along with well-being outcomes. For staff, high person-centeredness and support from co-workers were found to have a weaker impact on well-being, while support from supervisors produced a stronger impact. The research done by Willemse et al. (2015) suggested that supervisor support was more important than co-worker support for this sample population in relation to the level of well-being for nursing staff who possessed highly person-centred attitudes. It was also found that nursing staff would have better well-being and feel more satisfied when they experienced low job demand, high decision-authority, and received greater support from colleagues and supervisors, regardless of their level of person-centeredness.

The literature above has suggested that certain types of job characteristics associate positively and negatively with well-being outcomes. The relationship between these variables is important to the degree that even after controlling for other factors, like demographic variables (e.g. age, gender, education), the association remains significant (Pisanti, van der Doef, Maes, Lazzari, & Bertini, 2011; Siltaloppi,

Kinnunen, & Feldt, 2009; Taris & Wielenga-Meijer, 2010). Moreover, due to the significant effect of job characteristics on well-being variables, this factor was seen as one of the established factors and needed to be controlled for in order to examine the influence of other variables on well-being.

Apart from examining the direct effect of job characteristics on well-being, and investigating the influence of other variables as the mediator and moderator of these relationships, other researchers have treated work characteristics as an established factor in their investigations. This approach is particularly important in examining whether this variable is strong enough to determine well-being outside the effect of other variable. Some studies have revealed that, when work characteristics as the established factors were controlled for, the effect of other variables were found to be no longer significant in predicting certain well-being outcomes, such as the effect of noise (Smith, 2011), and psychological contract fulfilment (Ahmad et al., 2018). However, other variables significantly added more variance in explaining well-being outcomes, such as coping (Mark & Smith, 2012; Nelson & Smith, 2016; Zurlo et al., 2018), fatigue (Smith & Smith, 2017), and work-life balance and resilience (Omosehin & Smith, 2018). Yet, it is to be noted that even after adding various factors, work characteristics remained significant and strongly influenced well-being.

In addition, Lawson, Noblet, and Rodwell (2009) demonstrated that employee well-being (psychological health and job satisfaction) was attributed to job characteristics, and other variables (organisational justice) failed to account for additional variances in psychological health, but some additional effects of organisational justice could be seen. Similarly, almost all the domains found in job characteristics (physical demand, skill discretion, decision authority and supervisor

and colleague's supports) were significantly associated with well-being (job satisfaction, emotional exhaustion, personal accomplishment and psychosomatic symptoms), over and above the effect of demographic (age, gender and samples), and organisational conditions (various resources and work agreement) (Pisanti et al., 2011).

To summarise, work/job characteristics directly influence both positive and negative well-being, and have a moderating and mediating effect in explaining the relationship between certain variables and well-being. In addition, work characteristics was found to be such a robust factor that even after controlling for other variables or being treated as an established factor, work characteristics domains still remained significant in predicting well-being outcomes. Hence, we hypothesized in the present study that individuals who perceived that they experienced low demand, high control, and support (either related to work or study) are expected to experience positive well-being, while those who perceived that they experienced high demand, low control and support were more prone experience negative well-being. In addition, consistent with the literature, this study used this variable as the control variable (e.g. Smith, 2011; Zurlo et al., 2018), controlling for the effect of work characteristics while investigating the association between training attitudes and well-being.

2.4.1.4. Commitment and well-being

Apart from job characteristics, another work variable related to well-being is organisational commitment. Meyer and Allen (1991) discussed three components of organisational commitment. The first is affective commitment, which reflects the individual level of emotional attachment, identification and involvement in the organisation; the second is continuance commitment, which reflects the individual

level of perceived cost related to leaving the organisation. Lastly, normative commitment is related to the individual level of perceived obligation to stay in the same organisation. A meta-analysis study showed that affective commitment negatively correlated more strongly with turnover, perceived stress and work-family conflict than normative and continuance commitment (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). Meanwhile, positive associations could be seen between affective and normative commitment, in addition to job performance and OCB, and a negative correlation was seen between continuance commitment and job performance. Continuance commitment also correlated positively with both perceived stress and work-family conflict (Meyer et al., 2002).

Consistent with the findings of Meyer et al. (2002), Harris and Cameron (2005) also found that employees with high affective commitment, or who felt emotionally attached to their organisations, were less likely to have the intention of leaving the organisations, and this related to better life satisfaction and the experience of good self-efficacy. Employees who possessed high continuance commitment were also more likely to have turnover intentions. Affective commitment was also found to mediate the relationship between perceived organisational support and well-being, where employees who experienced emotional attachment due to having high support within the organisation were expected to have resources that could better facilitate their coping with the work demand, hence leading to the experience of higher well-being.

In contrast to other studies, Morin, Meyer, McInerney, Marsh and Ganotice's (2015) approach differed slightly, identifying seven profiles regarding organisational commitment to the dual areas of the occupation of teaching and Hong Kong teachers'

organisation. The results showed that Profile 6, which consisted of an affective commitment to the organisation and occupation along with a normative commitment to the occupation, and Profile 7, where employees had a strong normative commitment to the organisation and were fully committed to the occupation, had the highest levels of well-being. In contrast, employees in other profiles experienced lower levels of well-being. This result suggests that when teachers experienced high emotional attachment to the school and their jobs and felt morally obligated to the teaching profession, they reported higher levels of interpersonal fit, involvement, competency, thriving and recognition (Morin et al., 2015). These findings are similar to those of McInerney, Ganotice, King, Morin, and Marsh (2015), who added that normative commitment was the strongest predictor across all psychological well-being domains. This was then followed by affective commitment, while continuance commitment predicted the outcome in a negative direction.

When Glazer and Kruse (2008) examined commitment and job-related well-being among nurses, the researchers noted that both affective and continuance commitments moderated the relationship between job-related anxiety and intention to leave the organisation. Glazer and Kruse's study unveiled the fact that when nurses experienced a high level of affective and continuance commitment, this reduced the influence of job-related anxiety relating to the intention of leaving the hospital. This might have been due to the effect of commitment, which would have provided a meaningful relationship with the organisation; hence, it can be surmised that when employees' commitment was high, it would make them accept the anxiety caused by work stressors and reduce justifications for the intention to leave.

In investigating the relationship between commitment and well-being domains, a longitudinal design is more helpful than a cross-sectional design to explain the causal effect relationship. For example, Clausen, Christensen, and Nielsen (2015) found that both group and individual levels of affective organisational commitment at a baseline not only predicted individual levels of psychological well-being but also predicted self-reported sickness absences and employee levels of sleep disturbance a year later. However, Clausen et al. (2015) suggested that individual and group levels of affective organisational commitment should be viewed as two different organisational circumstances which produced different outcomes for the employee, such as sickness absence and sleep disturbance. They claimed that employees' perception of affective commitment in the workgroup worked as 'emotional contagion' and eventually influenced their level of well-being, while individual levels of affective commitment worked independently.

The above literature defined organisational commitment as normative, continuance and affective commitment in their studies. However, apart from these domains, many studies have also used a different type of operationalisation to represent the meaning of organisational commitment. For example, Mowday, Steers and Porter (1979) defined this term as something more than loyalty to the organisation. Instead, they propagated that it consisted of an active relationship to the organisation, with individuals willing to give something for its sake. Research on commitment among volunteers working in social or environmental fields revealed that organisational commitment was related to the intention to remain in the same organisation for the following year and increased volunteers' levels of psychological well-being, along with their work engagement and volunteer satisfaction index.

Additionally, other studies have shown that organisational commitment was significantly associated with various well-being outcomes over and above the effect of other variables. For example, Siu (2002) has demonstrated that organisational commitment significantly added more variance in job satisfaction, mental well-being, and physical well-being after controlling for the influence of occupation stressors among the Hong Kong white-collar group. On the other hand, other researchers have viewed commitment as an intrinsic effort or over-commitment, derived from the effort–reward imbalance model (Siegrist, 1996), yielding a contradictory result (Mark & Smith, 2012). For example, the item for over-commitment was, 'Work rarely lets me go, it is still on my mind when I go to bed'. This factor significantly increased anxiety and depression and showed the largest variance compared to other predictors (e.g. coping strategies and work demand, control and support) (Mark & Smith, 2012). In addition, Mark and Smith (2012b) revealed that after controlling for the effect of job demands, social support, skills discretion and decision authority, over-commitment was positively associated with anxiety and depression. On the contrary, Zurlo et al. (2018) demonstrated that this factor did not significantly influence both anxiety and depression, after work demand, control and support were controlled for.

To summarise, the literature that investigated the influence of commitment found that this variable can predict well-being outcomes both positive and negatively. Individuals with a high commitment towards their organisation and job mostly experienced more positive well-being outcomes (e.g. low intention to leave the organisation, high job satisfaction, high subjective, and psychological well-being). However, those who overly committed, to the extent where they were too immersed with their work and hardly stopped thinking about it even after the work hours ended, were found to have a negative impact on their state of well-being (experienced anxiety

and depression). Due to the both positive and negative effect of commitment to an individual's level of well-being, this construct was included in the present study and examined the association between training attitudes and well-being after the effect of commitment was controlled for.

2.4.1.5. Organisational citizenship behaviour and well-being

While research on the influence of organisational citizenship behaviour (OCB) on well-being has not been studied in as much depth as other variables such as personality, coping, job characteristics and commitment to well-being, there has been an increasing amount of literature investigating the link between OCB and individuals' well-being in recent years. OCB can be defined as 'individual behaviour that is discretionary, not directly or explicitly recognized by the formal reward system and that in the aggregate promotes effective functioning of the organisation' (Organ, 1988).

Organ (1988) has proposed five taxonomies of OCB: the first is conscientiousness, such as employees following the rules and attending meetings and/or social gatherings; the second is courtesy, such as employees who respect others by consulting with other people before taking any action; the third taxonomy is altruism, the reflecting of helping behaviour; the fourth is sportsmanship, and can be in cases such as avoiding trivial things such as gossiping and complaining about small matters; and finally, civic virtue, which represents the constant updating of things which could affect the organisation.

OCB can also be viewed as a subset of prosocial behaviour which can be directed towards the organisation or to other individuals, such as co-workers or supervisors (Brief & Motowidlo, 1986). Boyd and Nowell (2014) revealed that OCB

directed towards both the organisation and individuals is positively associated with individuals' levels of psychological well-being. They also found a mediation effect of OCB on the relationship between a sense of community responsibility and psychological well-being. The results suggested that healthcare workers experienced a high level of community responsibility, hence inducing them to act to enhance the community, thereby having a high OCB, and consequently causing their level of psychological well-being to increase.

Although many researchers have found that organisational citizenship behaviour (OCB) brings individuals many benefits, Bolino, Turnley and Niehoff (2004) have suggested that OCB might have a dark side, proposing that OCBs may be derived from self-serving motives. For example, an employee might perform an OCB to impress their employer or management, or the employee might have more mundane motives, such as exhibiting OCB due to boredom with their own job/task or helping others because they want to cover their counterproductive work behaviour. Bolino and Turnley (2005) found that one type of OCB action, called individual initiative, consisted of behaviour such as coming to work early and staying late, working during vacation, rearranging personal plans because of work, and so on, and was related to higher levels of role overload and job stress and an increase in work-family conflict. Thus, as Bolino, Klotz, Turnley, and Harvey (2013) have suggested, researchers should not focus only on positive consequences of OCB but also on negative consequences.

In response to Bolino et al. (2013), a recent study by Koopman, Lanaj, and Scott (2016) presented an integrative model which examined the advantages and disadvantages of daily OCBs for various levels of employees, and the results revealed

that more employee OCB experiences produced higher positive affect and better task performance. However, OCB also held a significant negative correlation with perceptions of work goal progress during the day. Koopman et al. (2016) concluded that job satisfaction and affective commitment could thus be improved by engaging with OCB via a positive affect. Yet, in a similar vein, engaging with OCB could also decrease job satisfaction and affective commitment, along with increasing emotional exhaustion via the perceptions of work goal progress. It seems that not only can OCB improve one's well-being, but it can also reduce one's level of well-being.

On the other hand, conscientiousness and altruism, the dimensions of OCB that are positively associated with role overload, were also components of role stressors (Singh & Singh, 2008). This might have been due to the influence of both OCB dimensions, where employees felt overloaded as a result of overly engaging in extra role behaviour. Meanwhile, sportsmanship and civic virtue had positive correlations with tangible support and informational support, which were components of perceived organisational support (Singh & Singh, 2008).

Above literature used a cross-sectional design to examine the relationship between OCB and well-being variables, this approach is limited in drawing causal effect. Therefore, the findings of a diary study by Conway, Rogelberg and Pitts (2009) provide richer information and better present a causal relationship. It was revealed that helping others, one of the dimensions of OCB, was related to the altruism personality trait and to momentary positive affect interaction. For those who had a low level of the altruism trait, a positive association could be seen between positive affect and later helping, and between helping and later positive affect. The authors suggested that helping might not be a consequence of the positive affect but might in fact be a cause

of it (Conway et al., 2009). This finding was consistent with Organ et al. (2006), who claimed that OCBs were outcomes of positive affect, along with positive job attitudes, supportive organisational climate, and so on.

In a nutshell, the literature on the influence of OCB on well-being has shown mixed findings, in which these factors could positively and negatively impact individual level of well-being outcomes. Hence, this makes it worth investigating the OCB-well-being relationship in this study. Moreover, even though these relationships have gained a lot of attention, the majority of research did not control for the effect of other variables, particularly demographic factors, in order to fully determine the association between OCB and well-being. Furthermore, the acts of OCB were not included as a controlled variable or established factor to see the influence of other variables on well-being. Thus, one of the objectives of the present study would be to examine the relationship between OCB and well-being, and most importantly, examine the association between training attitudes and well-being after the effect of OCB is controlled for.

To summarise this section, it has been proven that well-being can be influenced by various psychosocial factors that range from personal to work related variables. Factors that are more positive are related to positive well-being, while factors that are more negative are related to negative well-being. Past literature in the form of both cross-sectional and longitudinal studies has also revealed that these various factors are associated with well-being. The current study used both designs to address these relationships.

It was also demonstrated that certain factors are robust, in which that after adjusting other variables, such as demographic variables in particular, the association

between these factors with well-being still remained significant. Moreover, even after these factors were controlled in order to see the effect of other variables on well-being, certain factors were still significantly associated to well-being. Hence, as aforementioned, these factors (personality, coping, work characteristics, commitment and OCB), which we called psychosocial characteristics, were expected to play a role in determining one's level of well-being. Moreover, due to the expected relationship between these characteristics and well-being, all the psychosocial factors were adjusted/controlled for to explore the association between training attitudes (motivation to learn, learning, transfer intention and cognitive dissonance) and well-being.

2.4.2. Empirical Studies on Training Attitudes and Well-being

To date, there has been limited research on the associations between the four training attitudes: motivation to learn, learning, transfer intention and cognitive dissonance, and well-being. This is especially limited in the context of training. Furthermore, no research as far as we know, has examined these attitudes simultaneously; however, there are researchers who have investigated the association between these attitudes on well-being separately. For example, the influence of motivation to learn on well-being (e.g. Henning et al., 2007) and the association between learning and well-being (e.g. Jenkins & Mostafa, 2015). In addition, there has been very limited research into the association between transfer intention and cognitive dissonance on well-being.

Hence, due to the limited research on the influence of these attitudes on well-being, and since the main aim of this study was to examine the link between these attitudes, specifically in the context of training programmes, on well-being, a

systematic literature review process was used. By implementing this process, a strong foundation and good argument for the justification of the study was derived.

2.4.2.1. Motivation to learn and well-being

PubMed and PsycINFO were searched for English-language articles published between 1900 and 2019, and the following search terms were used: ‘motivation to learn’ or ‘learning motivation’ or ‘academic motivation’ or ‘well-being’ or ‘life satisfaction’ or ‘happiness’ or ‘positive affect’ or ‘negative affect’ or ‘stress’ or ‘anxiety’ or ‘depression’. The research produced 275 references (Figure 2.3 in Appendices A, page 366).

In the first stage, 222 references were rejected because ‘motivation’ or any ‘well-being’ terms were not mentioned in the title. In the second stage, 23 abstracts were rejected because these articles measured different outcomes (e.g. academic achievement, learning, performance, different type of motivation) and a few of them examined motivation as the dependent, rather than independent, variable. Finally, after thoroughly reading all of the selected papers, 22 articles were found to relate to the association between motivation to learn and well-being, and these were summarised (Table 2.1 in Appendices A, page 367).

Several studies had examined the association between motivation to learn and well-being. Noe (1986) defined motivation to learn as a specific enthusiasm that was shown by an individual to learn the content of a training programme. Meanwhile, Colquitt et al. (2000) defined motivation to learn as the direction, intensity and persistence of learning-directed behaviour that related closely to learning performance. The assessment of the motivation to learn consisted of items that measured an individual’s determination for learning, and persistence when the

programme content was difficult and challenging (Hicks, 1983). In the present study, we operationalised this construct to being the degree of an individual's eagerness to learn the content of the training programme, and we hypothesised that those with high learning motivation would be associated with high positive well-being. In order to build a strong basis regarding this relationship, the articles that were found were reviewed.

Research on the influence of motivation to learn on well-being has mostly been performed on students who have come from a variety of backgrounds, such as university students (Bailey & Phillips, 2016; Baker, 2004; Bye, Pushkar, & Conway, 2007; Gore & Rogers, 2010; Henderson-King & Smith, 2006; Henning, Hawken, Krägeloh, Zhao, & Doherty, 2011; Huang, Lv, & Wu, 2016; King & Ganotice, 2015; LePine, LePine, & Jackson, 2004; Stoeber, Feast, & Hayward, 2009) and school students (Bernaus & Gardner, 2008; Burton, Lydon, D'alessandro, & Koestner, 2006; Elmelid et al., 2015; Emadpoor, Lavasani, & Shahcheraghi, 2016; Essau, Leung, Conradt, Cheng, & Wong, 2008; Gottfried, 1982).

Most of the research that has examined the association between motivation and well-being has used the academic motivation scale (Vallerand et al., 1992), which has three domains — intrinsic motivation (intrinsic motivation towards accomplishment, knowledge and stimulation), extrinsic motivation (identified, introjected and external regulation) and amotivation (unmotivated). This scale has been used to measure students' motivation to attend school (Burton et al., 2006; King & Ganotice, 2015; Lombas & Esteban, 2018) and their reason for choosing specific coursework (e.g. psychology, physical education) (Erturan-Ilker, 2014; Standage, Gillison, Ntoumanis, & Treasure, 2012; Stoeber et al., 2009). Furthermore, most of the studies found that

intrinsic motivation is positively associated with subjective vitality (Erturan-Ilker, 2014), life satisfaction (King & Ganotice, 2015; Lombas & Esteban, 2018), positive affect (Bailey & Phillips, 2016; King & Ganotice, 2015), psychological well-being (Burton et al., 2006) and health-related quality of life (Standage et al., 2012). In addition, intrinsic motivation has been found to have a negative association with stress (Baker, 2003, 2004; Lombas & Esteban, 2018), negative affect (King & Ganotice, 2015), social physique anxiety (Erturan-Ilker, 2014), academic stress (Liu, 2015), lack of confidence (Stoeber et al., 2009) and loneliness (Lombas & Esteban, 2018).

On the contrary, the relationship between extrinsic motivation and well-being outcomes has had mixed findings. For example, introjected regulation (e.g. 'I do my assignment because I'll feel bad about myself if it doesn't get done') has been positively associated with worry (Stoeber et al., 2009) and negatively associated with academic stress (Liu, 2015) and health-related quality of life (Standage et al., 2012). Meanwhile, identified regulation (e.g. 'because I want to learn new things', 'because the content is important to me') has been positively related to subjective vitality (Erturan-Ilker, 2014) and health-related quality of life (Standage et al., 2012), and negatively related to academic stress (Liu, 2015).

However, King and Ganotice (2015) revealed that students who had a highly identified reason to study also experienced high negative affect. This might be due to other constructs playing a role in these variables, such as family obligation, engagement and disaffection (King & Ganotice, 2015). Erturan-Ilker (2014) also highlighted that external regulation (e.g. 'because I feel that I have to participate', 'because someone else wants me to' or 'because the situation demands it') is negatively related to subjective vitality, whilst Standage et al. (2012) added that this

type of motivational construct is negatively associated with health-related quality of life. Furthermore, students that participated in the learning process due to other factors were more prone to experience more negative affect (King & Ganotice, 2015). Lastly, amotivation, or unmotivated students (e.g. 'I really don't know why I participated in this class'), were found to be associated with a high level of social physique anxiety and a low level of self-esteem (Erturan-Ilker, 2014), were less satisfied with their lives (Bailey & Phillips, 2016), had low health-related quality of life (Standage et al., 2012), and experienced more academic stress (Liu, 2015) and stress in general (Baker, 2003, 2004). These literatures gave a detail explanation on type of motivation (e.g. amotivation, identified and external regulation) and its relation to various well-being domain (e.g. negative affect, health-related quality of life, self-esteem).

Apart from referring to academic motivation per Vallerand et al. (1992), motivation to learn has been operationalised using a slightly different approach that has defined this concept in more general terms, as proposed by Colquitt et al. (2000). For example, an interesting study by LePine et al. (2004), which investigated the relation between motivation to learn and two types of stress, challenge and hindrance stress, found that motivation to learn has a positive relationship with challenge stress, along with other variables, such as conscientiousness and learning performance. Meanwhile negative correlations have been found between motivation to learn, and hindrance stress and exhaustion. It has been said that students with high motivation to learn perceive the situations as challenging and promote mastery and personal growth; while students low in motivation to learn perceive the situations as hindering or as barriers to mastery and personal growth. In addition, motivation to learn has a positive effect on academic performance (LePine et al., 2004).

In comparison to the above studies' examination of the association between motivation to learn and well-being within the same sample, a comparison study is useful for deriving a better picture of the level of motivation and well-being between different groups in a sample and its relation on these variables. For example, in a comparative study, Henning et al. (2011) examined the link between motivation to learn and quality of life among domestic and international medical students. The study findings revealed that, for the international student samples, two domains in learning motivation – self-efficacy and intrinsic value – correlated positively with four domains of quality of life – physical, psychological, social and environmental (Henning et al., 2011). Test anxiety, another domain of motivation to learn, has been correlated negatively with four domains of quality of life. In addition, Henning et al. (2011) reported that quality of life was lower among international students than domestic students, and this might be due to the international students receiving minimal social support and possibly experiencing racial discrimination.

Karen Van, Aelterman, Rosseel, and Creemers (2007) claimed that students who reported that they attended school because they wanted to learn and found the subject interesting experienced a high level of well-being. Conversely, students who lacked motivation, and said that they attended school because it was compulsory, scored low on the well-being scale. This study suggested that students' level of well-being could be predicted not only from student's motivation for attending schools, but also students' characteristics, academic achievement and perception of interpersonal teacher behaviour. The authors also claimed that learning motivation was important for students' well-being, and it is not necessarily high achievers only who experience a higher level of well-being.

Even though the influence of motivation on well-being is quite clear, most of the studies examined the relationship between these two variables with other constructs, such as perfectionism (Essau et al., 2008; Stoeber et al., 2009), adaptation to college or university (Bailey & Phillips, 2016; Baker, 2003), family obligation (King & Ganotice, 2015), attachment style (Gore & Rogers, 2010), and a few others. Most importantly, they investigated the relationship on a univariate level, by conducting rather simple and straightforward analyses, such as correlation and multiple regression. Most of the studies did not examine the mediation or moderation effects of the relationship, and the established factors that were closely related to well-being were not controlled for.

Some of the studies that investigated the relationship between motivation and well-being at the multivariate level were Emadpoor et al. (2016), Lombas and Esteban (2018) and Bailey and Phillips (2016). For example, it was revealed that perceived social support mediates the relationship between academic motivation and psychological well-being (Emadpoor et al., 2016), while basic psychological needs indirectly have an effect on well-being, with the help of intrinsic motivation. Moreover, Bailey and Phillips (2016) found that intrinsic motivation towards knowledge significantly influences satisfaction with life, even after controlling for the effect of adjustments (social, personal-emotional and academic adjustments) and institutional attachment. More research in the future is needed to investigate the association between motivation to learn and well-being on a multivariate level.

In addition, most of the studies focused on motivation in a broad context (e.g. reason to attend school or studying, motivation to choose specific coursework) and its relation to well-being. The present study focused on motivation to learn in the context

of a training programme. Even though motivation to learn the training programme content has been widely investigated in the training research field, most of the studies treated this construct as a predictor of training effectiveness and transfer of training, whilst they did not examine it in relation to well-being. Hence, we hypothesised that individuals that are highly motivated or eager to learn the content of the training programme are associated with high positive well-being, even after controlling for established factors, particularly psychosocial characteristics (personality, coping, job characteristics, commitment and OCB).

2.4.2.1. Learning and well-being

The same process as that used for motivation to learn and well-being (2.4.2.0) was taken for learning and well-being. Figure 2.4 in Appendices A (page 372) provides details on the search process, which are summarised in Table 2.2 Appendices A (page 373).

Learning is defined as a process of obtaining new, or altering existing, knowledge, skills or attitudes (Gross, 2015). In the present study, learning was operationalised to refer to individuals who perceived that their knowledge and skills had improved after attending the training programmes. To better understand the impact of learning activities on well-being, and to build a strong basis regarding this matter, all 16 articles selected were closely related to our operationalised definition of learning.

The selected research either applied a cross-sectional design (Cera, Cristini, & Antonietti, 2018; Holfve-Sabel, 2014; Narushima, Liu, & Diestelkamp, 2013; van Doorn, van Ruysseveldt, van Dam, Mistiaen, & Nikolova, 2016; Yamashita, López, Stevens, & Keene, 2017), a longitudinal design with two to four phases of data

collection (Ashdown & Bernard, 2012; Hanson, Trolian, Paulsen, & Pascarella, 2016; Jenkins & Mostafa, 2015; Ladegård, 2011) or a mixed-method design (survey, interview, intervention) (Åberg, 2016; England, Brigati, & Schussler, 2017; Perkins & Williamson, 2014). In addition, research on the association between learning and well-being was able to be divided into three categories — namely, learning among older adults, students and workers.

To start with, learning among older adults seems to be important, as this activity could bring many benefits because learning helps to increase level of well-being (Åberg, 2016; Gardner & Helmes, 1999; Jenkins & Mostafa, 2015a; Narushima et al., 2013; Perkins & Williamson, 2014), satisfaction with life (Cera et al., 2018; Yamashita et al., 2017) and health-promoting behaviours (Perkins & Williamson, 2014; Yamashita et al., 2017). According to Cera et al. (2018), when older adults were asked what they thought about learning, three different views emerged: first, the way in which they saw learning as a process whereby interpersonal aspects were relevant; second, learning as a focused process that involves attention and effort; and lastly, learning as an individualistic process. It was revealed that only the individualistic conception of learning was associated with life satisfaction, while the other two conceptions were related to life satisfaction (Cera et al., 2018).

In addition, older adults that attended different types of learning programmes or activities had an impact on certain well-being constructs. Jenkins and Mostafa (2015) contended that the relationship between learning and subjective well-being is significant, especially if it is informal learning, such as music, arts, sports clubs and exercise classes. It was said that informal learning is prone to increase well-being because of the intrinsic enjoyment, and the use of classes as a medium to get together

with others. Plus, these two factors were seen as an essential motive for older adults to learn (Jenkins & Mostafa, 2015). Perkins and Williamson (2014) revealed that a significant improvement in well-being could be seen among older adults who joined a 10-week programme of music-making. By learning music, it not only provided enjoyment while playing the instrument, but it could also increase their social interaction by playing instruments together, and their feelings of musical ambition fulfilment, satisfaction through musical progress and pride in their ability to make music (Perkins & Williamson, 2014). Hence, this helped them to experience subjective pleasure and increase their well-being level.

Meanwhile, Åberg (2016) found that older adults who participated in learning activities and viewed meeting new people as an important motive, experienced a higher sense of well-being than older adults who did not have the same motive. Moreover, the use of an informal setting in the programme produced a positive environment by promoting a sense of belonging and providing the space and opportunity to be part of society, thus helping in avoiding loneliness and social isolation. As a result, the participants felt happier and increased their well-being level (Åberg, 2016). On the other hand, older adults that took part in a public continuing-education programme for four to 18 months and 19 to 48 months were almost twice as likely to experience better well-being. Meanwhile, older adults who participated in the course for more than two years were almost three times more likely to have higher well-being (Narushima et al., 2013). Narushima et al. (2013) proved that the longer the older adults took part in a learning programme or course, the higher their well-being, regardless of what type of programme they had attended or subject they had learned. This study was also consistent with Field (2009), who claimed that learning

among older adults brings a lot of advantages, such as improved life satisfaction and social support, active social and civic participation, and promoted healthier lifestyles.

The above literature highlighted the impact of learning on well-being among older adults. However, the results that emerged from these findings might have varied if researchers had chosen a different sample, particularly university or school students, due to their different life phases and purpose in life. Accordingly, research on these relationships in other sample populations is critical. To begin, Hanson et al. (2016) revealed that peer learning is positively associated with personal growth, environmental mastery, purpose in life, autonomy and self-acceptance. However, positive relationships with others are not significantly influenced by peer-learning (Hanson et al., 2016). It has been said that doing classroom projects together, and spending more time with one's peers, may exert a positive influence on student's well-being (Hanson et al., 2016). Meanwhile, a study on experiential learning, which focused on learning to communicate effectively about one's feelings to others, was shown to have associations with students' level of happiness, resilience, self-esteem and well-being (Srivastava & Sinha, 2012).

It was also revealed that students who participated in certain types of learning programme, especially with regard to their social-emotional development, were more able to manage their emotions, get along with other students, and engage in their academic learning better, along with showing a higher level of social-emotional well-being than the students who did not participate in that programme (Ashdown & Bernard, 2012). Another study found that a high level of students' learning, along with their social relations with friends in their class, and student perception of teacher-student relationships, predicted better well-being (Holfve-Sabel, 2014).

Even though learning could exert a positive impact on students' well-being, active learning practices (e.g. answering a question, working in groups, completing worksheets) were found to be associated with students' class anxiety (England et al., 2017). It was revealed that answering the questions, either voluntarily or through being called, caused higher anxiety that other active learning practices, and these practices could also influence their social and test anxiety. In addition, those who were more anxious than other students were reported to have self-reported lower course grades and were more likely to have the intention to drop their major (biology) (England et al., 2017).

Similarly, van Doorn et al. (2016) investigated active learning (measuring learning outcomes as the extent to which individuals acquired new work-related competences) and its relation to emotional exhaustion and job characteristics. Although the focus of the study was to examine the influence of job characteristics (job demands, control and social support) on nurses' emotional exhaustion and active learning, correlation analysis showed that active learning positively correlated with emotional exhaustion, job control and support. These two studies have revealed that active learning is associated with negative outcomes and might reduce positive well-being in individuals.

In comparison to studies using older adults and students as samples, other investigators have chosen organisational workers for their sample. Literature examining the association between learning and well-being among workers is in line with the current study's aim, which will also focus on organisational staff as participants. For example, Nikolova, Van Ruysseveldt, De Witte and Syroit (2014) looked at learning as a buffer in the relationship between task restructuring and well-

being. The results revealed that when an employee's level of learning or their acquisition of new skills were low, the association between task restructuring and emotional exhaustion was strong and positive. It can be said that a good understanding of newly-acquired skills helps the employees to be well prepared in coping with the demands of the learning associated with task restructuring, thus facilitating the process of improving their well-being (Nikolova et al., 2014).

To add to that, Felstead, Gallie, Green, and Inanc (2015) pointed out an interesting result from their research, in which it was found that learning disposition influences job-related well-being. Analysis has shown that an employee with a deeper learning disposition will have low job satisfaction. This statement means that an employee with high commitment to learning is hard to satisfy and please, compared to the employee who has a low expectation of learning, or low learning disposition. When learning demands and learning dispositions are well matched, employees reported experiencing more satisfaction and enthusiasm (Felstead et al., 2015). In other words, learning could influence an employee's job satisfaction and job-related well-being.

The previous literature has shown that learning has a lot of benefits that are not only restricted to gaining new knowledge and skills, but can also be used to boost individuals' level of well-being even though the learning content is broad. This research did not specifically focus on certain skills that aimed to increase ones' level of positive well-being, or decrease stress and anxiety. Learning in general helps students, workers and even older adults to feel good about themselves and make them more confident and empowered due to their new knowledge and skills.

However, most of the studies outlined above did not explicitly measure learning because they used pre- and post-measurement as an indicator that the learning process had happened (e.g. Ashdown & Bernard, 2012; Narushima et al., 2013; Perkins & Williamson, 2014; Srivastava & Sinha, 2012). Meanwhile some of the researchers measured learning using a questionnaire or specific scale, such as learning conceptions (Cera et al., 2018), peer learning (Hanson et al., 2016), attitudes towards school (Holfve-Sabel, 2014), self-directed learning (Gardner & Helmes, 1999), learning course duration (Narushima et al., 2013) and active learning (van Doorn et al., 2016). There were also some of them that assessed participant's learning using open-ended questions (Åberg, 2016) and interviews (Dench & Regan, 2000; England et al., 2017; Perkins & Williamson, 2014). None of the studies mentioned above measured learning explicitly in a specific context, particularly in the context of training programmes, such as measuring participants' perception about their understanding of the training content, or perception of the improvement of their knowledge and skills after attending the programme. Hence, due to this gap in knowledge, we hypothesised that participants (both workers and students) who perceived that their knowledge and skills had improved, or thought that they had learned a lot after attending training programmes (either broad or specific programme), were more prone to experiencing positive well-being.

2.4.2.2. Transfer intention and well-being

Similarly, the search process regarding transfer intention and well-being was the same as that for motivation to learn (2.4.2.0) and learning (2.4.2.1) and well-being. Figure 2.5 presents the details of the search process (Appendices A page 377), and Table 2.3 offers a summary of all the related articles (Appendices A page 378).

Transfer intention originated from the implementation intentions proposed by Gollwitzer (1999), which emphasised the if–then plan to successfully achieve one's goal (e.g. 'if I encounter situation X, then I will perform response Y'). It has been said that trainees who have high motivation to learn and have learned a lot after attending training have a high probability of transferring the newly-acquired knowledge and skills to the work setting (Colquitt et al., 2000; Noe, 1986). Similarly, those who have a high intention to implement new knowledge and skills have a higher probability of transferring the actual knowledge and skills to their daily job (Al-Swidi & Al Yahya, 2017; Machin & Fogarty, 2003).

However, the association between transfer/implementation intentions and well-being has been underexplored. The studies on implementation intentions in psychology-related fields were mostly related to intervention, applying implementation intention as a behavioural intervention in promoting desirable behaviours, such as to improve sleep behaviour (Loft & Cameron, 2013), to increase exercise behaviour and physical activity (Bélanger-Gravel, Godin, & Amireault, 2013; Budden & Sagarin, 2007), and to reduce negative behaviour, such as unhealthy eating (Hagger, 2015), to reduce drinking behaviour (Grothues et al., 2005), to decrease anxiety when interacting with others (Stern & West, 2014), and many more. There was a very limited number of studies that had investigated the influence of implementation intention, behavioural intention or transfer intention, particularly in the context of training, on individuals' level of well-being. Twelve related articles were found, and are discussed below.

Most studies that were found applied implementation intention as an intervention, and tested it by conducting an experiment, examining it in relation to

certain well-being outcomes (Budden & Sagarin, 2007; Loft & Cameron, 2013; J. Morgan & Atkin, 2016; Morgan & Harris, 2015; Parks-Stamm, Gollwitzer, & Oettingen, 2010). For example, both Morgan and Harris (2015) and Morgan and Atkin (2016) investigated the impact of brief, work-related, self-affirming implementation intention on well-being constructs (anxiety, self-efficacy and emotions). It was revealed that both studies significantly reduced anxiety levels immediately after the condition being implemented, and two or three weeks after that. Morgan and Atkin (2016) added that school-teachers who participated in the study had more positive emotions during teaching, and used better emotion regulation. Both studies suggested that integrating the brief, work-related, self-affirming implementation intention into organisation practice may be beneficial in helping teachers or other highly-stressed workers to achieve a better level of well-being, and it could buffer the effects of job stressors on the employees, particularly in a period of organisational change and downsizing.

Meanwhile, Parks-Stamm et al. (2010) assessed the effect of two types of implementation intentions that included task-facilitation and temptation-inhibition on test anxiety and academic performance among undergraduate students. The participants had to complete a maths problem while being distracted. The results showed that high-anxiety students did better if they formed implementation intention to ignore the distraction (temptation-inhibiting), rather than intensifying their efforts on the ongoing task (task-facilitating). This study highlighted that implementation intention was indeed useful in improving the targeted behaviour, but also depended on the characteristics of the participants and the type of implementation intention being used.

Previous studies have explored the effect of implementation intention on certain behaviours that particularly relate to well-being, finding that it brings a positive outcome, as mentioned in other studies (Loft & Cameron, 2013; Machin & Fogarty, 2004; Pasikowski, Sek, & Ziarko, 2005; Shim, Serido, & Tang, 2012). Pasikowski et al. (2005) examined the association between implementation intention and well-being, and explained intention completeness using the four characteristics outlined by Kuhl (1986), which include the agent of an action, the action plan, the involvement in goal realisation and information on the temporal and spatial context of implementing an intention. The results showed that well-being can be predicted by intention completeness, especially when individuals specify the place and time for implementing the behaviour; this was the strongest predictor among the variables. Pasikowski et al. (2005) concluded that the strength of the intention, which they characterised from weak to strong, being intention to implement or continue healthy behaviours, and intention completeness and action orientation in healthy behaviour planning, was the main health-behaviour predictor.

With a slightly different definition of behavioural intention, Shim et al. (2012) examined the link between intended and actual behaviours among full-time students regarding their financial behaviours and the relation to the students' well-being. The result identified that students who possess a more positive attitude towards financial behaviour, and who have a better perception of parental expectations, will show a stronger intention to perform saving behaviours. In addition to that, behavioural intention at baseline influenced actual behaviour after a year and, as a consequence, increased students' level of well-being. Besides the strong relationship between financial well-being and the sense of well-being, they also claimed that intentional behaviour could aid in increasing the level of happiness.

Again, Hattar, Pal and Hagger (2016) defined behavioural intention differently, characterising the concept as the intention by obese adults to participate in daily physical activity, which had a negative correlation with psychological outcome (including depression, anxiety and stress) and body composition outcome (consisting of body weight and total body fat). This study suggested that, when obese adults have a stronger intention to perform physical activity with a specific plan, they experience a low negative psychological outcome, whilst becoming physically healthier through their physical behaviour.

The positive effect of implementation intention or intentional behaviour on well-being has supported the notion of Lyubomirsky, Sheldon, and Schkade (2005), who emphasised that a certain type of intentional behaviour or activity could influence individuals' level of well-being. They proposed that some types of behavioural activity (trying to exercise regularly or trying to be kind to others), or some types of cognitive activity (attempting to reappraise situations in a more positive light or trying to counting one's blessings), or some types of volitional activities (planning and working on an important personal goal) might have a positive impact on positive well-being.

However, there were a few studies that had mixed findings, where implementation intention provided both positive and negative effects. For example, Smith, Ntoumanis, and Duda (2010) conducted a study to examine the influence of implementation intentions, coach behaviour and goal motives on athletes' level of well-being. The study revealed a significant interaction between implementation intention and controlled goal motives, and this might indicate a potential risk to athletes' well-being. It was said that athletes who performed goal-striving due to having a perception of internal or external pressure (e.g. to avoid feelings of guilt or

shame) and, at the same time, strategized a specific when, where and how to strive for the goal, might risk experiencing ill-being. In contrast, the interaction between implementation intention and autonomous goal motives was not significant, which indicates that implementation intention did not provide additional affective benefits to the athletes who possessed high autonomous motives. The non-significant interaction between these two variables may indicate that a specific strategy of planning is not required when athletes' motives for goal-striving are autonomous, with an intrinsic motivation drive. Smith et al. (2010) concluded that, in order to avoid athlete's ill-being, coaches and sports psychologists need to be aware of, and alert to, the athletes' motives, especially if these are controlled motives, before applying implementation intention.

Meanwhile Budden and Sagarin (2007) conducted an experiment using implementation intention manipulation, examining its impact on an exercise in intention-behaviour relationships among workers who experienced various occupational stress levels. Surprisingly, the application of implementation intention backfired, with those in the implementation intention group reportedly performing less exercise behaviour. This suggests that those who did not perform the implementation intention (by planning when, where and how they would exercise) exercised significantly more than those who formed implementation intention. Budden and Sagarin (2007) explained that this finding might be due to the rigidity and inflexibility of the planning, where, if the participants missed the critical environmental cue due to other demands (e.g. extra work or family demands), and were not provided with an alternative plan, they did not perform the exercise behaviour. Hence, this study highlighted that sometimes the application of implementation intention can go wrong.

Previous studies on the influence of implementation intention or behavioural intention on individuals' level of well-being have provided a sound basis and from that, a proposition has been made, in which intention has a certain impact on well-being. However, most of the studies in the literature made use of implementation intention as an intervention, or participants were asked about their intention concerning certain behaviour, particularly related to health and its relation to well-being. Only two studies exist, as far as we know, that have examined the relation between implementation intention in the context of training programmes or, to be precise, transfer implementation intention and its relation to some well-being constructs (Machin & Fogarty, 2003, 2004). Both of these studies could be said to be the closest to our research aim. Transfer implementation intention measures trainees' intention to engage in specific behaviours that would facilitate the transfer of their skills (Machin & Fogarty, 2004). Even though their research examined transfer implementation intention as an outcome, from the correlation analyses, Machin and Fogarty (2004) found that this construct positively correlated with positive affect and negatively correlated with negative affect.

As a conclusion, past literature has found that implementation intention could have an impact on individual level of well-being, however, the influence of implementation intention in the context of training, or transfer implementation intention on individuals' level of well-being is still underexplored. More research on transfer implementation intention needs to be carried out in order to clarify whether this variable could help in facilitating ones' well-being. Hence, based on previous studies, and particularly Machin and Fogarty's (2003, 2004) studies, we hypothesised that individuals that have high intention to implement the new knowledge and skills

that they have learned in the training programme into their daily lives are more likely to experience high positive well-being.

2.4.2.3. Cognitive dissonance and well-being

Lastly, the search process to identify past literature investigating the association between cognitive dissonance and well-being was undertaken as described in the previous sections (from 2.4.2.0 to 2.4.2.2). Figure 2.6 provides details about the search process (Appendices A page 381), and Table 2.4 offers a list of the articles (Appendices A page 382).

The term 'cognitive dissonance' was first introduced by Festinger (1962), who described it as an unpleasant state of emotion that results from having two or more cognitions, or beliefs, that are contradictory to each other, leading to cognition alteration. Meanwhile, according to Myers (2010), cognitive dissonance is defined as 'the tension that arises when one is simultaneously aware of two inconsistent cognitions. For example, dissonance may occur when we realise that we have, with little justification, acted contrary to our attitudes…' (p. 141).

In short, cognitive dissonance begins when a person encounters cognitions that contradict each other and, as a result, develops an uncomfortable affective state that leads to a specific type of motivation to reduce the inconsistency or dissonance (Festinger, 1962). Examinations of the influence of cognitive dissonance in the training research field is rather limited; however, it was first addressed by Weisweiler et al. (2013), who determined that individuals may fail to transfer new knowledge and skills because they have encountered cognitive dissonance due to the new knowledge contradicting their prior experience. More research is required to explore the effects of cognitive dissonance on training effectiveness and transfer of training.

In this project, we operationalised this construct in the context of a training programme, where individuals who experienced cognitive dissonance whenever they wanted to apply their newly-acquired knowledge and skills from the training programme into their daily lives were more prone to encounter negative well-being. Examples of cognitive dissonance in this context include a feeling of discomfort when using the new knowledge and skills, or a confused state of mind either in using the new knowledge and skills or the knowledge and skills used prior to the training programme. The contradiction between cognition, behaviour or belief can produce an uncomfortable negative affective state that may lead to feelings of discomfort, arousal and/or restlessness (Festinger, 1962). Hence, in order to better understand the association between cognitive dissonance and well-being, these 14 articles are useful in providing a fundamental grounding in this matter.

Most of the studies that examined the influence of cognitive dissonance on a well-being construct (e.g. anxiety, depression, emotion, stress, burnout, job satisfaction, emotional well-being) either implemented experimental designs where cognitive dissonance was the manipulation condition (Becker et al., 2010; Burris, Harmon-Jones, & Tarpley, 1997; Foster & Misra, 2013; Luethcke, McDaniel, & Becker, 2011; Yousaf & Gobet, 2013), or applied longitudinal (Cheung & Tang, 2010; Menasco & Hawkins, 1978) or cross-sectional (Fontanari, Bonniot-Cabanac, Cabanac, & Perlovsky, 2012; Kovacs, Kovacs, & Hegedűs, 2010; Kumar Mishra & Bhatnagar, 2010; Palsane, 2005; Pugh, Groth, & Hennig-Thurau, 2011; Suinn, 1965) designs.

It has been revealed that individuals who experience cognitive or emotional dissonance also experience feelings of stress (Cronqvist, Theorell, Burns, & Lützén, 2001; Palsane, 2005), that it has a negative impact on physical and psychological status

(Cheung & Tang, 2010; Kovacs et al., 2010; Palsane, 2005), and causes low emotional well-being and high turnover intention (Kumar Mishra & Bhatnagar, 2010). Not only that, but dissonance (either cognitive or emotional) positively influences emotional exhaustion (Pugh et al., 2011) and negatively predicts job satisfaction (Cheung & Tang, 2010; Pugh et al., 2011). In addition, cognitive dissonance has also been found to occur among consumers where they feel psychologically uncomfortable because of the inconsistency between two cognitions, or the experience of cognitive dissonance after purchasing some products. Alternatively, Menasco and Hawkins (1978) called it a post-purchased dissonance. These were all found to have a predicted effect on anxiety state. Even though Menasco and Hawkins' (1978) examination of post-purchase dissonance and its relation to negative well-being is somewhat unrelated to the current study, it satisfactorily portrayed the effect of dissonance on an individual's overall level of well-being.

In addition, it was found that the presence of dissonance was considered to be associated with feelings of anxiety. Suinn (1965) suggests that when individuals experience arousal from cognitive inconsistency, two types of motivation might occur. First, motivation might increase as a desire to reduce dissonance, as proposed by Festinger (1962); or second, motivation might be heightened by the desire to reduce anxiety. Furthurmore, Burris et al. (1997) added that by reducing the dissonance through transcendence or maintaning their beliefs (or cognition), this could lessen the negative affect caused by dissoannce.

Apart from post-purchase dissonance and cognitive dissonance, a similar construct, emotional dissonance, was also included to better understand the general effect of dissonance on well-being. Emotional dissonance, defined as the incongruence

between the emotions that individuals feel and the emotions that they express during either face-to-face conversation or voice-to-voice interaction (Abraham, 1998; Zapf, 2002), could also have an impact on certain well-being constructs. Pugh et al. (2011) found associations between emotional dissonance and emotional exhaustion and job satisfaction. It was noted that employees who experience this kind of dissonance face a higher probability of emotional exhaustion or burnout, which decreases their job satisfaction. Prior to these findings, Kovacs et al. (2010) found emotional dissonance to be a significant stress factor, which has a negative effect on both physical and psychological status. Furthermore, a different job status is accompanied by a different level of emotional dissonance; for example, oncology healthcare workers have a higher record of emotional dissonance than non-oncology care workers (Kovacs et al., 2010). Kovacs et al. (2010) explained that this is potentially prompted by the fact that oncology healthcare workers regularly need to suppress their negative emotions, such as frustation and anger, instead of having to express more positive emotions to the patients and their families, which leads to high burnout levels.

Even though cognitive dissonance has been found to have a negative impact on positive well-being (job satisfaction, positive emotion), and is positively associated with negative well-being (burnout, stress, anxiety), when cognitive dissonance has been used as an intervention (cognitive dissonance manipulation), a positive effect was derived. For example, Luethcke et al. (2011) implemented cognitive dissonance mirror exposure, in which participants were instructed to make positive comments during mirror exposure, being encouraged to make as many positive comments as possible regarding the appearance of each of their body parts. It was revealed that only participants in this condition significantly improved their body satisfaction level compared to other mirror-exposure conditions. In Becker et al. (2010), where

dissonance-based intervention was applied, participants were instructed to do mirror homework by listing their positive physical and emotional qualities. The study showed that cognitive dissonance intervention decreased participants' level of negative affect, and lowered their thin-ideal internalisations and bulimic pathologies immediately after the intervention, and at 14 months after the intervention was conducted.

On the other hand, there have been some studies that have applied cognitive dissonance as a manipulation condition, finding that participation in this condition leads to more negative outcomes. For example, Yousaf and Gobet (2013) conducted a dissonance manipulation with regard to religious hypocrisy by making the participants feel hypocritical for advocating certain religious activities that they had not recently engaged in. It was revealed that the dissonance participants reported greater levels of guilt and shame compared to the control condition. Similarly, Foster and Misra (2013) applied dissonance manipulation to romantic infidelity. The results showed that participants who reported symptoms associated with cognitive dissonance also had higher self-concept discrepancy, psychological discomfort and poorer affect than participants who did not report symptoms related to cognitive dissonance.

In conclusion, these studies have demonstrated that cognitive dissonance in various research settings and fields produces a negative effect on individuals' level of well-being, which mostly increases stress level (Palsane, 2005), anxiety (Menasco & Hawkins, 1978), emotional exhaustion (Kovacs et al., 2010), work strain (Cheung & Tang, 2010), and promotes low job satisfaction (Cheung & Tang, 2010). However, if cognitive dissonance was used as an intervention to help to increase certain positive behaviours or emotions, a positive effect could also be seen (Becker et al., 2010; Luethcke et al., 2011). The positive or negative influence of cognitive dissonance

depends on the aim and objectives of the study, the design of the research and, most importantly, on how the cognitive dissonance is manipulated and measured.

Even though the relationship between cognitive dissonance and well-being is quite clear and straightforward, none of the studies outlined above have implemented this construct (cognitive dissonance) in the context of training programmes. However, based on the evidence from the literature a strong fundamental point could be derived, in which negative affective state derived from cognitive dissonance might have a role in negative well-being constructs. Hence, we hypothesised that individuals who experience cognitive dissonance, particularly regarding conflicted cognition and behaviour related to transferring the content of the training programme, are more prone to encounter high negative well-being.

2.4.3. Empirical Studies of Training Attitudes Predictors

As stated earlier, the main objective of this study was to bridge the gap between training effectiveness predictors and well-being. Not only is it essential to examine the effect of training attitudes on well-being, it is also worth investigating the predictors of these four training attitudes to better understand the antecedent of these variables — namely, motivation to learn, learning, transfer intention and cognitive dissonance.

To begin, in the transfer of training model that was proposed by Baldwin and Ford (1988), it was stated that learning, which is one of the training outputs, can be influenced by three training inputs — trainee characteristics, training design and work environment. An individual high in motivation and cognitive ability, along with having a more positive personality, including openness to experience and extroversion, among other features, will learn from and better understand a training programme. Not only that, but Baldwin and Ford (1988) also suggested that the work

environment, particularly support from supervisors and co-workers, and the opportunity to use newly-acquired skills and knowledge, helps to increase learning and retention processes. In addition, Noe (1986) found that trainees who score high in job involvement and are proactive in planning their careers are more likely to score higher in learning the content of training programmes.

Moreover, in a more recent study on employee learning behaviour, which asked about the frequency of those that actually participated in certain work-related learning activities, such as the acquisition of new information, the development of new ideas, the finding of solutions to work problems and following up on new developments, were positively correlated with their job demands and social support (Gijbels, Raemdonck, Vervecken, & Van Herck, 2012). However, after conducting regression analysis, none of the work characteristics (job demands, supports and control) significantly influenced learning behaviour. This finding highlighted that learning activities are driven by intrapersonal variables rather than environmental stimuli.

Next, a meta-analysis, performed by Colquitt, LePine, and Noe (2000), revealed that both individual and situational characteristics were related to motivation to learn. Concerning individual characteristics, it was said that trainees with a high internal locus of control, achievement motivation (Colquitt et al., 2000) and self-efficacy (Al-Eisa, Furayyan, & Alhemoud, 2009) have a moderate to strong positive relationship with motivation to learn. In addition, personality, in terms of extraversion, openness (Major, Turner, & Fletcher, 2006) and conscientiousness, as well as being proactive (Hentschel, Eid, & Kutscher, 2017; Roberts, Rogers, Thomas, & Spitzmueller, 2018), are all significant predictors of motivation to learn. Also, by using

intrinsic motivation in self-determination theory to measure academic/learning motivation among students, it was revealed that the strongest predictors of learning motivation are conscientiousness, followed by neuroticism (Bozanoğlu & Sapancı, 2015; Komarraju & Karau, 2005; Müller, Palekčić, Beck, & Wanninger, 2007) and openness to experiences (Komarraju & Karau, 2005; Müller et al., 2007). Individuals with high conscientiousness were more motivated and able to organise themselves and their environment, while those with high openness saw themselves as inquisitive and intellectual, and those who were less neurotic could manage their own emotions, and themselves in general (McCrae & Costa, 2003), thus they manage to create a person–-environment interaction and maintain a good level of learning motivation (Müller et al., 2007).

The above studies examined the predictors of motivation to learn and learning that focused on a trainee's personal characteristics. However, it is crucial to investigate other factors that contribute to these variables, particularly job-related aspects. The literature reveals a strong to moderate relationship between job involvement (Colquitt et al., 2000), organisational commitment (Colquitt et al., 2000; Kontoghiorghes, 2002; Machin & Treloar, 2004), career planning and career exploration (Colquitt et al., 2000), and motivation to learn. Machin and Treloar (2004) added that a feeling of high work locus of control, and trainees who believed that they would derive a significant benefit from training programmes, also have a high level of training motivation. Meanwhile, with regard to situational characteristics, it was revealed that supervisors who support trainees (Al-Eisa et al., 2009; Colquitt et al., 2000; Machin & Treloar, 2004) and obtain support from co-workers, along with experiencing a positive climate within the organisation (Colquitt et al., 2000; Kontoghiorghes, 2002), help the trainee to develop high motivation to learn and to transfer the training content.

Kontoghiorghes (2002) summarised that matters pertaining to organisational commitment, job design, job motivation, and quality-driven culture that provides workers with growth, learning and advancement opportunities are seen to be important for determining both motivation to learn and motivation to transfer.

Similarly to motivation to learn, various individual and situational characteristics can also predict transfer intention. Those who possess a high level of self-efficacy and receive supervisor support tend to have increased intention to apply newly-acquired knowledge and skills from training programmes to their work setting (Al-Eisa et al., 2009; Machin & Fogarty, 2004). Al-Eisa et al. (2009) explained that trainees who are confident in their ability and capability to succeed in a training programme, along with having a high motivation to learn the content of the training, are more likely to have a high transfer intention level and are more committed to instigating the transfer process. Moreover, Machin and Fogarty (2004) determined that transfer intention has a positive relationship to five domains of transfer climate — namely, goal and social cues, positive and negative reinforcement, and extinction. This transfer climate is one of the potential facilitators of the positive transfer of training into the work setting (Rouiller & Goldstein, 1993).

The influence of affectivity on both transfer intention and pre-training motivation has also been reported (Machin & Fogarty, 2004). Employees who attend training with positive affect, where they feel enthusiastic, excited, alert, strong, proud, inspired and determined, will also experience high pre-training motivation, whereby they are eager to take part in the training. Meanwhile, those who frequently encounter negative affect, such as feeling scared, afraid, nervous, irritable, hostile and guilty, tend to have a low intention to transfer new knowledge and skills (Machin & Fogarty,

2004). Another characteristic that may influence transfer intention is supervisor support. Research has found that supervisor support has the most potent effect on transfer intention compared to self-efficacy and motivation to learn (Al-Eisa et al., 2009). On the contrary, Kim, Park, and Kang (2019) found that motivation to learn has the greatest impact on transfer intention compared to supervisor support. Even though there were mixed findings on the influence of supervisor support in determining one's level of intention to transfer, it cannot be neglected that supervisors who provide a significant level of support to trainees to attend a training programme, and who encourage trainees to apply new knowledge and skills in the workplace, indeed help the trainee to initiate the transfer.

Regarding cognitive dissonance, most studies have been conducted in the field of social psychology and management research (Hinojosa et al., 2017). Cognitive dissonance theory has been widely used to explain organisational behaviour, such as job demands and job satisfaction (Karanika-Murray, Michaelides, & Wood, 2017), staffing risks and safe staffing (D'lima, Murray, & Brett, 2018), and also consumer behaviour (Wilkins, Beckenuyte, & Butt, 2016). Some studies that have incorporated this theory have manipulated the situation to create a dissonance scenario, measuring various outcomes from that (Westphal & Bednar, 2008; Zhu, 2013). Although cognitive dissonance results in many issues, research into the antecedents of cognitive dissonance is rather limited. To better understand the cause of such dissonance, it is essential to examine the number of psychosocial characteristics that may play a role in determining a high or low level of cognitive dissonance in individuals. Hence, one of the objectives of this study was to identify the predictors of cognitive dissonance.

Following the approach proposed by Colquitt et al. (2000), which emphasised both individual and situational characteristics, this study investigated various psychosocial characteristics as the predictors of training attitudes. As mentioned above, personality (Hentschel et al., 2017; Major et al., 2006), organisational commitment (Colquitt et al., 2000; Machin & Treloar, 2004) and affectivity (Machin & Fogarty, 2004) play a role in determining training attitudes. Past research has also found that other work-related variables, such as job involvement (Colquitt et al., 2000), supervisor and co-worker support (Al-Eisa et al., 2009; Colquitt et al., 2000; Machin & Treloar, 2004), and career planning and career exploration (Colquitt et al., 2000), can predict one of the training attitudes.

However, in this study, slightly different predictors were used. The work characteristics that cover work demand, control and support were used as one of the training attitude predictors. There has been limited research to investigate the influence of work characteristics on either motivation to learn, learning or transfer intention, while there has been no research, as far as we know, that has examined the effect of such predictors on cognitive dissonance. In these limited studies, it has been revealed that workers that experience high job control and low job demands are more motivated to learn (De Lange et al., 2010; Taris, Kompier, De Lange, Schaufeli, & Schreurs, 2003). However, both of these studies measured motivation to learn in a slightly different context, where they assessed the extent to which the workers actively looked for situations where they could expand their skills (Taris et al., 2003). This definition is quite broad and, most importantly, is different to what we actually want to measure.

Similarly, as stated above, past studies have found that situational characteristics play a role in determining learning, motivation to learn and transfer intention. Almost all of the situational characteristics listed above were too specific, focusing on variables only in the context of training. For example, support from supervisors and co-workers was defined as the extent to which supervisors or co-workers give encouragement to the workers/trainees on applying their newly-acquired knowledge and skills from the training programmes in the work setting (Nijman, Nijhof, Wognum, & Veldkamp, 2006). This definition is contradictory to what we intended to measure in this study. All of the psychosocial characteristics, particularly those related to the job or organisational characteristics used in this study, were broad in nature, such as work demand, control and support, OCB and commitment, and their relation to four attitudes to training. Also, this study investigated the influence of positive personality, and positive and negative coping on attitudes towards training. It is worth highlighting that the psychosocial characteristics are broad, while the four attitudes are specific, in the context of training programmes.

2.5. Conclusion

This chapter provided a discussion of a number of topics, including the conceptualisation of well-being, seven psychosocial characteristics and the definition of four training attitudes. Next, a few closely related theories or models were presented to explain well-being and training and to better understand the association between them.

In the next part, the empirical studies that investigated the relationship between psychosocial characteristics and well-being were discussed. Past studies have shown that well-being could be predicted by various variables. For example, individuals who

perceive themselves as having a positive personality, employed frequent positive coping, and perceived that their work has positive characteristics, had a better level of well-being. In addition, some mixed findings were revealed between commitment and OCB on well-being.

Afterwards, the empirical studies on the association between psychosocial characteristics on training attitudes were presented. Past studies in the training research field have revealed that motivation to learn, learning, transfer intention and cognitive dissonance could be determined by a certain aspect of both individual and situational characteristics, as proposed by Colquitt, LePine and Noe (2000). For example, the role of personality, organisational commitment, and affectivity play a role in determining training attitudes. Furthermore, other work-related variables, such as job involvement, supervisor and co-worker support, career planning and career exploration, can predict one of the training attitudes. However, due to the lack of research on cognitive dissonance predictors, especially in the context of the training research field, more research is needed in the future.

With regards to the literature review of the influence of training attitudes on well-being, very few studies have investigated the associations between these four training attitudes and well-being, particularly in specific contexts (e.g. those related to training). Furthermore, no research, as far as we know, has examined the four attitudes simultaneously. However, some researchers have studied the association between these attitudes on well-being separately, such as the influence of motivation to learn on well-being and the association between learning and well-being. In addition, very few studies have examined the relationship between transfer intention and cognitive dissonance on well-being.

In sum, various gaps or aspects of training attitudes and well-being that need further investigation have been noted in the literature review. Importantly, there is a lack of research combining both fields of research (training and well-being). The current research programme sought to investigate this relationship by starting with participants who underwent broad and various training programmes, moving on to those who participated in more specific training programmes and ending with individuals involved in training programmes designed to enhance individuals' levels of well-being. By implementing these designs, a clear relationship between training attitudes and well-being could be better understood. Hence, to find a clear relationship between all variables, the first exploratory study was conducted among organisational workers who participated in various training programmes (human resources, health and safety or specific skills courses). The findings from this study were used to develop the subsequent study.

Chapter 3:

Associations between Psychosocial Characteristics, Training Attitudes and Well-being: An Exploratory Study among Organisational Workers (Study 1)

3.1. Introduction

As stated in previous chapters, training is essential to develop one's expertise. It is useful not only for organisational purposes and benefits, for example, to increase productivity and profit, but also helps employees meet their current job description, improve work performance or increase employability (Werner & DeSimone, 2011). At the same time, individuals need to have a good level of well-being to ensure that they can positively carry out their daily routine and become more productive (Gandy, Coberley, Pope, & Rula, 2016).

Research on training mostly focuses on what makes training programs effective, so that all invested costs are worthwhile, as well as determining what allows trainees to successfully apply all knowledge and skills they have been taught in the training program into the work setting. The factors behind training effectiveness and transfer of training can range from training design to trainee characteristics and work environment (Baldwin, Ford, & Blume, 2009; Noe, 1986; Saks & Burke, 2012). Research on well-being has also examined what constitutes well-being and the antecedents behind it, ranging from personal to work-related characteristics (Capasso, Zurlo, & Smith, 2018; Stansfeld, Shipley, Head, Fuhrer, & Kivimaki, 2013).

The integration between both training and well-being research fields is still rather limited. Research in training that also examines well-being as an outcome usually focuses on training programs that aim to help trainees decrease their level of stress or increase their well-being; for example, intervention programs such as those associated with stress management (Brennan, McGrady, Lynch, Schaefer, & Whearty, 2016; George, Dellasega, Whitehead, & Bordon, 2013), resilience (Abbott, Klein, Hamilton, & Rosenthal, 2009; Rose et al., 2013), mindfulness (Krusche, Cyhlarova, & Williams, 2013; Phang, Mukhtar, Ibrahim, Keng, & Sidik, 2015) and cognitive-behaviour therapy (Gardner, Rose, Mason, Tyler, & Cushway, 2005).

Rather than focusing on the direct effect of training programs on individual well-being, this study will place attention on the influence of training attitudes on well-being. Four training attitudes were chosen, namely motivation to learn, learning, transfer intention and cognitive dissonance, which have been found to be appropriate factors for predicting training effectiveness. It was hypothesised that employees that have high motivation to learn the content of the training program and understand the knowledge and skills better than before undertaking the training programmes are more likely to experience positive well-being. In addition, those who have the intention to apply the newly acquired knowledge and skills to the work setting, will also have high positive well-being. Meanwhile, those who experience cognitive dissonance, or feelings of confusion, and are uncomfortable when using the new knowledge and skills will also tend to experience negative well-being.

Several studies have examined the influence of these four training attitudes on well-being separately. Past research has shown that individuals with high motivation to learn new knowledge and skills experienced a high level of well-being (Baker, 2004; Van Petegem, Aelterman, Rosseel, & Creemers, 2007) and better quality of life

(Henning, Hawken, Krägeloh, Zhao, & Doherty, 2011). Meanwhile, individuals that learn new knowledge and skills in a training program not only feel happier and have better well-being, but also experience greater life satisfaction (Hachem & Vuopala, 2016; Narushima, Liu, & Diestelkamp, 2013) and increased self-confidence (Dench & Regan, 2000). Also, intention to perform certain types of behaviour (particularly health-related) correlated positively with one's level of well-being (Pasikowski, Sek, & Ziarko, 2005) and negatively with stress, anxiety and depression (Hattar, Pal, & Hagger, 2016). Lastly, those who encounter cognitive dissonance (i.e. having two cognitions or beliefs that contradict each other) will experience anxiety (Keng & Liao, 2013), emotional exhaustion (Kovacs, Kovacs, & Hegedűs, 2010), work strain and low job satisfaction (Cheung & Tang, 2010).

This study is an attempt to bridge the gap between training effectiveness predictors and well-being. Thus, the main aim of the study is to examine the influence of these four training attitudes on well-being simultaneously, and within a specific context (i.e. training programs among organisational workers). However, since well-being can be influenced by many variables including both personal and work characteristics, the influence of these variables on well-being is included in the study and will be controlled in order to investigate the link between training attitudes and well-being.

Moving on to the second objective, this study also aims to examine the influence of psychosocial characteristics on training attitudes. As mentioned in the previous chapter, factors like personality (Baldwin et al., 2009), organisational commitment (Colquitt, LePine, & Noe, 2000; Machin & Treloar, 2004) and affectivity (Machin & Fogarty, 2004) all play a role in determining training attitudes. Past research has also found that other work-related variables such as job involvement

(Colquitt et al., 2000), supervisor and co-workers' support (Al-Eisa, Furayyan, & Alhemoud, 2009; Colquitt et al., 2000) and career planning and career exploration (Colquitt et al., 2000) predict one of the training attitudes; however, in this study, slightly different predictors will be used. Work characteristics, including work demand, control and support, will be used as one of the training attitude predictors. The study also investigates the influence of positive and negative coping and OCB on attitudes toward training.

Based on previous studies, two main hypotheses are proposed:

H1: Psychosocial characteristics influence training attitudes (motivation to learn, learning, transfer intention and cognitive dissonance),

H2: Training attitudes influence well-being, after controlling for other variables (demographic and psychosocial characteristics).

3.2. Method

3.2. 1 Research design

This research is a quantitative and cross-sectional study that involves a set of questionnaires that enquire about psychosocial characteristics, four training attitudes and well-being among organisational workers.

3.2. 2 Participants

A total of 210 participants completed an online survey that was cross-sectional in nature. Participant recruitment involved purposive sampling. The important criterion was that participants must be employed full-time and attend training courses at work, related to either human resources (HR), health and safety or specific skills courses. Among the respondents, 94 of them attended skills training, 92 attended health and safety training, and the rest (24) attended HR courses.

The majority of respondents were 31 to 40 years old (66, 31.4%), and were married (88, 41.9%). Regarding education, most of them held an undergraduate degree (58, 27.6%), and were of white ethnicity (179, 85.2%). Regarding job characteristics, the majority of participants had not taken any sick leave for the past 12 months (74, 35.2%), did not suffer from illness caused by work (136, 64.8%), and had good general health (97, 46.2%). They had never worked at night (95, 45.2%), never had 'on call' work (95, 45.2%) and never experienced unpredictable working hours (90, 42.9%).

Table 3.1

Demographic description of the sample

		n = 210	***%***
Age	Below 20 years old	7	3.3
	21–30 years old	48	22.9
	31–40 years old	66	31.4
	41–50 years old	57	27.1
	51–60 years old	24	11.4
	Above 61 years old	7	3.3
Gender	Male	105	50
	Female	105	50
Marital status	Single	53	25.2
	Living with partner	56	26.7
	Married	88	41.9
	Separated	5	2.4
	Divorced	8	3.8
Education	Secondary Education	38	18.1
	Post-Secondary Education	40	19.0
	Vocational Qualification	39	18.6
	Undergraduate Degree	58	27.6
	Post-Graduate Degree	30	14.3
	Doctorate	4	1.9
	Other	1	0.5
Ethnicity	White	179	85.2
	Black Caribbean	4	1.9
	Black neither Caribbean or African	3	1.4
	Indian	9	4.3
	Pakistani	3	1.4
	Bangladeshi	2	1.0

	Chinese	2	1.0
	Other	7	3
Sick leave	None	74	35.2
	1-5 days	67	31.9
	6-10 days	40	19.0
	11-15 days	12	5.7
	More than 15 days	17	8.1
Illness caused by work	Yes	74	35.2
	No	136	64.8
General health	Very bad	3	1.4
	Bad	12	5.7
	Fair	74	35.2
	Good	97	46.2
	Excellent	24	11.4
Work at night	Never	95	45.2
	Seldom	42	20.0
	Sometimes	41	19.5
	Often	29	13.8
Shift work	Never	100	47.6
	Seldom	19	9.0
	Sometimes	45	21.4
	Often	44	21.0
Work long / unsociable hours	Never	60	28.6
	Seldom	44	21.0
	Sometimes	59	28.1
	Often	45	21.4
‘On call’ wok	Never	95	4502
	Seldom	25	16.7
	Sometimes	56	26.7
	Often	21	10.0
Unpredictable working hours	Never	90	42.9
	Seldom	38	18.1
	Sometimes	56	26.7
	Often	24	11.4
Potential harmful substances	Never	113	53.8
	Seldom	25	11.9
	Sometimes	51	24.3
	Often	19	9.0
Handle or touch harmful substances or material	Never	107	51

	Seldom	25	11.9
	Sometimes	53	25.2
	Often	23	11.0
Work task that leave with ringing or temporary feeling of deafness	Never	131	62.4
	Seldom	22	10.5
	Sometimes	47	22.4
	Often	8	3.8
Noise disturbs work environment	Never	83	39.5
	Seldom	45	21.4
	Sometimes	56	26.7
	Often	24	11.4

3.2. 3 Procedure

Ethical approval was provided by the School of Psychology Ethics Committee. Once permission from the committee was given, the Qualtrics Team who were responsible for finding the participants were informed. The questionnaire, informed consent and debriefing were obtained online from participants, who all received £5 each as a reward for taking part in this study.

3.2. 4 Measurements

This research used single-item and brief measures to assess participants' psychosocial characteristics, which consist of positive personality, positive and negative coping, positive and negative work characteristics, OCB and commitment. The brief measurement also assessed four training attitudes, namely motivation to learn, learning, transfer intention and cognitive dissonance. Lastly, the outcome of this study consisted of single-items measuring positive and negative well-being.

3.2.4.1. Single-item measures

This study used single-item measures because they provide more advantages than multiple-item measures. The benefits of using single-items are, first, they are economically more favourable. As Burisch (1984) noted, the process of multiple-items consumes large amounts of funds and manpower, thus leading researchers to prefer single-item measures (Wanous, Reichers, & Hudy, 1997). Second, single-items help in reducing nonresponse rates (Rogelberg & Stanton, 2007). Participants tend not to provide a completely honest answer and sometimes do not give any response. In addition, they can feel tired, bored, fatigued and experience frustration due to the long surveys and responding to similar questions repeatedly (Burisch, 1984; Robins, Hendin, & Trzesniewski, 2001; Rogelberg & Stanton, 2007).

Because multiple-item measures tend to use more words and space on a survey, and researchers want to measure many variables at the same time, single-items are a better option because the researcher does not need to decide which variables to exclude, but instead includes all variables required without being concerned about survey space (Fuchs & Diamantopoulos, 2009; Wanous et al., 1997). Wanous et al. (1997) also claimed that single-item measures show high face validity because the item is easier to understand than a multiple-item measure that repeatedly asks about the same construct. Therefore, Fuchs and Diamantopoulos (2009) and Wanous et al. (1997) contend that single-item measures may be more suitable for workers, management and organisational research.

Despite all of the advantages, single-item measures are usually not recommended and are considered to possess low reliability (Wanous et al., 1997) when compared to multiple-item measures that tend to be more reliable (Robins et al., 2001). Also, Nagy (2002) claimed that there was no calculation of internal consistency for

the single-item measures. Single-items might also have issues with validity, where the item may not adequately represent the content of a complex construct (Cronbach & Meehl, 1955). Fisher, Matthews, and Gibbons (2016) conclude that single-item measures may inaccurately represent the construct of interest because the reliability and validity of single-items are generally unresolved.

Even though there are disadvantages of using single-item measures, such measures were chosen for this study because of their practicality and since the study aimed to examine many variables, ranging from job to personal characteristics, along with training attitudes and well-being; hence, single-item measures are the best option to minimise respondent burden (Woods & Hampson, 2005).

3.2.4.2. Psychosocial characteristics and well-being

Psychosocial characteristics and well-being were assessed by using the Short-Swell test (Smith & Smith, 2017). Nine items from the Short-Swell were used, comprising negative and positive work characteristics, positive and negative coping, positive personality, OCB, commitment, and positive and negative well-being. An example of the items were 'To what extent does your job have negative characteristics (e.g. high demands; requires a lot of effort; little consultation on change; role conflict; issues with other members of staff?)' and 'To what extent do you try to cope with problems in a positive way (e.g. you focus on the problem and try to solve it; you get social support?)'. Meanwhile, an example of a well-being item was 'In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mood; happiness?)'. All items had a response scale of 1 (Not at all) to 10 (Very much so). The reliability for positive items was .834 and for negative items was .702.

3.2.4.3. Training attitudes

The next part is training questions that have four simple questions that asked the participants about the average duration of the courses, type of training courses that they have attended, whether the training courses related to their work and their perception on the usefulness of the courses.

Training attitudes in this study consist of motivation to learn, learning, transfer intention and cognitive dissonance. All of the items for these variables used other researchers' work as a guideline and modified the statement in accordance with the research objectives and to make it more suitable for the sample.

Motivation to learn has four items that originate from the Motivated Strategies for Learning Questionnaire (Pintrich, 1991) (e.g., When I am doing the training courses, I am looking forward to learning the content of the course). This construct assessed participant eagerness to learn the content of the training programs. The reliability of this construct was found to be 0.931.

Meanwhile, learning and transfer intention have three and two items, respectively. For the learning construct, it measured participant perception regarding their knowledge that was improved after attending the training, while the transfer intention construct assessed respondents' intention in implementing the new knowledge and skills into the work setting. These two variables were derived from Machin and Fogarty's (2003) work, as a guideline (e.g. I understand the knowledge and skills presented in the training course better than before undertaking those courses; I will look for opportunities and use the techniques I learned in training courses as much as I can). The reliabilities of learning and transfer intention were 0.922 and 0.872, respectively.

Finally, cognitive dissonance has two items that originated from a study by Levin, Harriott, Paul, Zheng, and Adams (2013). This construct assessed participants' uncomfortable negative affective state whenever they used the newly acquired knowledge and skills, and also cognitive inconsistency between the newly acquired knowledge and skills; and the previous knowledge and skills before they attended the training courses. An example of this construct is 'Sometimes I feel uncomfortable when using the techniques I learned in training courses'. The reliability of these items was determined to be 0.906. The response scale for all training attitude items ranges from 1 (Strongly disagree) to 10 (Strongly agree).

3.2. 5 Data analyses

This study used parametric analyses over nonparametric analyses even though all measurements were in the form of a Likert scale (ordinal data). According to some experts, in the case of an adequate sample size and normally distributed data, parametric tests can be used with Likert-scale ordinal data (Jamieson, 2004; Norman, 2010) as these tests are generally more robust than nonparametric tests (Norman, 2010: Sullivan, 2013). Therefore, preliminary analyses were required to determine whether the dependent variable met all the assumptions of parametric tests (correlation and regression analysis). The data analysis for this study demonstrated that the data were normally distributed (after conducting P-P plot, Kolmogorov-Smirnov and Shapiro-Wilk tests), independent and met the assumption of linearity and homoscedasticity (nonsignificant Levene's test; Field, 2013). Thus, it can be concluded that the parametric tests are robust enough to continue to be used on ordinal data.

Additionally, as this study implemented multiple analyses for the same data, some potential issues might have arisen, particularly the familywise error rate (the probability of making a *Type 1 error* in any family of tests when the null hypothesis

is true in each case; Field, 2013). The familywise error rate can be controlled in various ways, such as the Bonferroni, the Sidak or Tukey's procedure. Moreover, for hypothesis testing, the current study used *p*-value, which represents probability and measures the likelihood that any observed significant findings are due to chance. A *p*-value less than 0.05 is statistically significant, indicating strong evidence against the null hypothesis with less than a 5% probability the null is correct, suggesting that the researcher should accept the alternative hypothesis (Fisher, 1956).

For the current study, all data were analysed using IBM Statistics SPSS 20, and the analyses were both descriptive and inference related comprising correlation, multiple regression and hierarchical regression. The use of correlation analysis is necessary to investigate the relationship between psychosocial characteristics, training attitudes and well-being. Meanwhile, regression analysis is essential for examining the influence of psychosocial characteristics on training attitudes. Finally, hierarchical multiple regression was used to control other variables (demographics and psychosocial characteristics), and to explore the association between training attitudes and well-being.

3.3. Results

This study aims to investigate the link between training effectiveness predictors, which were referred to as training attitudes on individuals' levels of well-being. Hence, two main hypotheses were created to achieve this aim. First, it was hypothesised that psychosocial characteristics influence training attitudes, and second, training attitudes to predict one's well-being, after controlling for demographics and psychosocial characteristics.

The research findings will be presented in two parts, which refer to the type of analysis used: descriptive and inference. The inference analysis will be displayed according to the hypotheses.

3.3. 1 Descriptive analysis

This section presents a descriptive analysis of each variable, starting with frequencies and percentages of the type of training courses. Next, are the means and standard deviations of psychosocial characteristics and well-being, along with attitudes towards training variables.

Table 3.2

Descriptive statistics of the type of training

		n	***%***
Attend training	Yes	210	100
	No	0	0
Average duration	1–2 hours	29	13.8
	Half day	70	33.3
	One day	80	38.1
	More than one day	31	14.8
Type of training	HR courses	24	11.4
	Health and Safety	92	43.8
	Skills training	94	44.8
Training related to work	Yes	194	92.4
	No	16	7.6
Training usefulness	Not at all useful	7	3.3
	Slightly useful	24	11.4
	Moderately useful	56	26.7
	Very useful	85	40.5
	Extremely useful	38	18.1

Table 3.2 above shows that all participants attended the training program and the average duration of the training program was one day (38.1%) – 44.8% were skills training, and training was related to their work (92.4%). Lastly, participants reported that the training program they had attended was very useful (40.5%).

Table 3.3

Descriptive statistics of psychosocial characteristics and well-being

	Min.	***Max.***	***Mean***	***Standard Deviation***
Negative work characteristics	1	10	6.60	2.416
Positive work characteristics	1	10	7.34	1.727
Positive coping	3	10	7.80	1.533
Negative coping	1	10	5.57	2.588
Positive personality	1	10	7.23	1.951
Model employee (OCB)	3	10	7.70	1.574
Commitment	1	10	7.30	2.024
Positive well-being	1	10	7.25	1.987
Negative well-being	1	10	5.70	2.796

To summarise Table 3.3, which presents means and standard deviations of psychosocial characteristics and well-being mostly obtained from the Short-Swell test (Smith & Smith, 2017), it was shown that participants have relatively high positive work characteristics (M = 7.34, SD = 1.73), positive coping (M = 7.80, SD = 1.53), positive personality (M = 7.23, SD = 1.95), and positive well-being (M = 7.25, SD = 2.00). They were also moderate with respect to negative work characteristics (M = 6.60, SD = 2.42), negative coping style (M = 5.57, SD = 2.59), and negative well-being (M = 5.70, SD = 2.80).

Table 3.4 demonstrates that participants had a high motivation to learn that ranges from 7.44 to 8.04, and are high in learning (7.54). Participants also reported having high transfer intention (7.52) and moderate cognitive dissonance (5.59).

Table 3.4

Descriptive statistics of training attitudes

	Min.	***Max.***	***Mean***	***Standard Deviation***
Motivation to learn 1	1	10	8.04	1.75
Motivation to learn 2	1	10	7.70	2.13
Motivation to learn 3	1	10	7.44	2.16
Motivation to learn 4	1	10	7.85	2.00
Learning 1	1	10	7.61	1.94
Learning 2	1	10	7.45	2.01
Learning 3	1	10	7.56	1.90
Implementation intention 1	1	10	7.63	1.93
Implementation intention 2	1	10	7.41	2.07
Cognitive dissonance 1	1	10	5.46	2.86
Cognitive dissonance 2	1	10	5.71	2.71

3.3. 2 Inferential analysis

For the inferential analysis, which will determine whether the hypotheses will be accepted or rejected, the correlation analysis will be presented first, followed by both the multiple and hierarchical regressions.

3.3.2.1. Hypothesis 1: Psychosocial characteristics influence training attitudes

Table 3.5 shows that all of the positive psychosocial characteristics variables, including positive work characteristics, positive coping, positive personality, OCB and commitment, have a significant positive correlation with motivation to learn and learning. All variables were greater or equal to $r(208) = +.27$, $p < .01$. The results suggest that employees who perceived that they have high positive work characteristics, apply more positive coping, feel that they have a positive personality,

consider that they are a model employee and have a high commitment towards the job and organisation, will also score high in motivation to learn and learning.

Similarly, all of the psychosocial characteristic variables, except for positive coping, showed a significant positive relationship with transfer intention. All of the Pearson correlations were greater or equal to $r(208) = +.31$, $p < .01$. These findings indicate that those who score high in positive personality, positive work characteristics, along with perceiving themselves as model employees and committed to the job and organisation, will also consider that they have a high intention to use the newly acquired knowledge and skills to the work setting.

In contrast, all of the negative psychosocial characteristic variables, which consist of negative work characteristics, and negative coping have a significant positive association with cognitive dissonance. All variables were greater or equal to $r(208) = +.43$, $p < .01$. These findings suggest that employees who perceived their work as having negative characteristics, such as high demand and role conflict, along with applying a more negative coping style, also experience cognitive inconsistency related to implementing new knowledge and skills.

Table 3.5

Correlation analysis between psychosocial characteristics, training attitudes and well-being

Variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**
NWC (1)	1											
PWC (2)	.030	1										
PC (3)	.179**	.425**	1									
NC (4)	.414**	.176*	-.049	1								
PP (5)	.200 **	.316**	.563**	.005	1							
OCB (6)	.146*	.379**	.438**	.067	.442**	1						
CM (7)	.051	.532**	.448	.088	.437**	.460**	1					
MTL (8)	-.078	.268**	.354**	-.033	.405**	.400**	.418**	1				
LN (9)	-.016	.290**	.283**	.013	.413**	.391**	.484**	.893**	1			
TI (10)	.044	.349**	.310**	.076	.379**	.330**	.489**	.796**	.802**	1		
CD (11)	.431**	.093	-.042	.578**	.110	.005	.097	.069	.118	.175*	1	
PWB (12)	.126	.388**	.464**	.014	.693**	.397**	.501**	.360**	.386**	.350**	.102	1
NWB (13)	.402**	.112	.055	.505**	-.057	-.040	.097	-.076	-.026	.033	.476**	-.184**

NWC = Negative work characteristics, PWC = Positive work characteristics, PC = Positive coping, NC = Negative coping, PP = Positive personality, OCB = organizational citizenship behaviour, CM = Commitment, MTL = Motivation to learn, LN = Learning, TI = Transfer intention, CD = Cognitive dissonance, PWB = Positive well-being, NWB = Negative well-being.

*** p > .001, * p > .05.*

Table 3.6 shows that when all psychosocial characteristics were entered as predictors into a multiple regression using the standard method, a significant model emerged: $F(9,200) = 12.155$, $p < .000$. The model explains 29.6% of the variance in motivation to learn. Of all the predictors, positive personality makes the largest unique contribution (beta = .22), followed by commitment (beta = .21), OCB (beta = .20) and negative work characteristics (beta = -.19).

Table 3.6

Regression analysis for motivation to learn as an outcome

Variable	**B**	**SE**	**β**	**t**	**p**
Negative work characteristics	-.564	.208	-.186	-2.717	.007
Positive work characteristics	-.112	.317	-.026	-.354	.723
Positive coping	.456	.378	.095	1.205	.229
Negative coping	.057	.193	.020	.296	.767
Positive personality	.813	.286	.216	2.844	.005
OCB	.943	.334	.202	2.823	.005
Commitment	.762	.279	.210	2.732	.007
Model; R = .544, R^2 = .296				F = 12.155	.000

* p > .05

Table 3.7 shows that when all psychosocial characteristics were entered as predictors into a multiple regression using the standard method, a significant model emerged: $F(9,200) = 13.119$, $p < .000$. The model explains 31.3% of the variance in learning. Of all the predictors, commitment makes the largest unique contribution (beta = .33), followed by positive personality (beta = .25).and OCB (beta = .17).

Table 3.7

Regression analysis for learning as an outcome

Variable	**B**	**SE**	**β**	**t**	**p**
Negative work characteristics	-.225	.152	-.100	-1.482	.140
Positive work characteristics	-.002	.232	.000	-.007	.995
Positive coping	-.211	.277	-.060	-.764	.446
Negative coping	.021	.141	.010	.146	.884
Positive personality	.689	.209	.247	3.297	.001
OCB	.591	.244	.171	2.414	.017
Commitment	.882	.204	.328	1.324	.000
Model; R = .559, R^2 = .313				F = 13.119	.000

* p > .05

Table 3.8 demonstrates that when all psychosocial characteristics were entered as predictors into a multiple regression using the standard method, a significant model emerged: $F(9,200) = 11.504$, $p < .000$. The model explains 28.5% of the variance in transfer intention. Of all the predictors, only commitment and positive personality make significant unique contributions (beta = .33) and (beta = .18), respectively.

Table 3.8

Regression analysis for transfer intention as an outcome

Variable	**B**	**SE**	**β**	**t**	**p**
Negative work characteristics	-.064	.107	-.041	-.597	.551
Positive work characteristics	.177	.163	.081	1.081	.281
Positive coping	.009	.195	.004	.047	.963
Negative coping	.065	.100	.044	.646	.519
Positive personality	.355	.148	.184	2.407	.017
OCB	.160	.172	.067	.927	.355
Commitment	.616	.144	.331	4.280	.000

Model; R = .534, R^2 = .285	F = 11.504	.000

* p > .05

Table 3.9 illustrates that when all psychosocial characteristics were entered as predictors into a multiple regression using the standard method, a significant model emerged: $F(9,200) = 19.724$, $p < .000$. The model explains 40.6% of the variance in cognitive dissonance. Of all the predictors, negative work characteristics makes the largest unique contribution (beta = .25), followed by negative coping (beta = .17) and positive personality (beta = .14).

Table 3.9

Regression analysis for cognitive dissonance as an outcome

Variable	**B**	**SE**	**β**	**t**	**p**
Negative work characteristics	.541	.138	.246	3.916	.000
Positive work characteristics	.040	.211	.013	.190	.850
Positive coping	-.490	.252	-.141	-1.948	.053
Negative coping	.958	.129	.166	7.442	.000
Positive personality	.394	.190	.144	2.071	.040
OCB	-.366	.222	-.108	-1.647	.101
Commitment	.225	.186	.086	1.214	.226
Model; R = .637, R^2 = .406				F = 19.724	.000

* p > .05

In summary, all of the psychosocial characteristics significantly correlated with all attitudes towards training including motivation to learn, learning, transfer intention and cognitive dissonance. However, only certain types of psychosocial characteristics make a significant contribution to all training attitudes.

3.3.2.2. Hypothesis 2: Training attitudes influence well-being, after controlling for demographic and psychosocial characteristics

Moving onto the second hypothesis, Table 3.5 reveals that all of the positive psychosocial characteristics have significant (moderate) positive correlations with positive well-being, that were greater or equal to $r(208) = +.39$, $p < .01$. Meanwhile, there were significant positive correlations between negative work characteristics and negative coping, with negative well-being. Both of them were greater or equal to $r(208) = +.40$, $p < .01$. These findings suggest that individuals who perceived themselves as having a positive personality, apply more positive coping, feel that their job has positive characteristics, committed to the job and the organisation, and exhibit OCB, would also rate themselves as having high well-being level. In contrast, employees perceiving that their job has negative characteristics and frequently apply negative coping strategies would also feel that they are more stressed, anxious and depressed.

Meanwhile motivation to learn, learning and transfer intention were significantly correlated (moderate) with positive well-being and were greater or equal to $r(208) = +.35$, $p < .01$, while cognitive dissonance was (moderately) positively associated with negative well-being, $r(208) = .48$, $p < .01$.

Tables 3.10 and 3.11 illustrate the hierarchical regression analysis, where demographic variables (Model I) and psychosocial characteristics (Model II) were regarded as the control variables, positive and negative well-being as the dependent variables, and attitudes toward training (Model III) as the input.

Table 3.10

Hierarchical multiple regression for positive well-being

Dependent variable	**Positive well-being**								
Independent variable	**Model I**			**Model II**			**Model III**		
Control variable	β	t	p	β	t	p	β	t	p
Age	-.016	-.224	.823	.060	1.113	.267	.074	1.333	.184
Gender	.096	1.376	.170	.065	1.322	.188	.073	1.446	.150
Education	.046	.663	.508	.005	.090	.928	.003	.064	.949
Neg. work characteristics				.001	.023	.981	-.013	-.216	.829
Pos. work characteristics				.109	1.755	.081	.114	1.799	.074
Positive coping				-.022	-.322	.748	-.008	-.120	.905
Negative coping				-.010	-.180	.857	-.030	-.464	.643
Positive personality				.579	9.148	.000	.567	8.684	.000
OCB				.015	.255	.799	.014	.226	.822
Commitment				.195	3.099	.002	.183	2.712	.007
Predictors									
Motivation to learn							-.041	-.334	.739
Learning							.108	.887	.376
Transfer intention				.			-.056	-.619	.537
Cognitive dissonance							.056	.875	.383
R^2		.013			.540			.544	
ΔR^2		-.002			.516			.511	
F change		.868			32.397			.432	
Sig. F change		.459			.000			.785	

In Table 3.10, with positive well-being as the dependent variable, Model I, with age, gender and education as the predictors, explained 0.02% of the variance and were not significant ($F(3, 205) = .868$, $p > .459$). Model II, in which seven psychosocial characteristics were added, explained significantly more variance (R^2 change = .527, $F(7, 198) = 32.397$, $p < .000$). The model explains 52% of the variance in positive well-being (Adjusted $R^2 = .516$). Model III, in which four training attitudes were added, explained a slight increase of variance and this increase was not significant (R^2 change = .004, $F(4, 194) = .432$, p > .785). Model III explained 51% of the variance in positive well-being (Adjusted $R^2 = .511$) and was significant ($F(14, 194) = 16.517$, $p < .000$). The significant predictors in Model III were positive personality and commitment.

Table 3.11

Hierarchical multiple regression for negative well-being

Dependent variable	**Negative well-being**								
Independent variable	**Model I**			**Model II**			**Model III**		
Control variable	β	t	p	β	t	p	β	t	p
Age	-.177	-2.564	.011	-.123	-1.935	.054	-.103	-1.623	.106
Gender	-.148	-2.171	.031	-.130	-2.238	.026	-.110	-1.901	.059
Education	.084	1.223	.223	.045	.764	.446	.036	.619	.537
Neg. work characteristics				.281	4.286	.000	.215	3.074	.002
Pos. work characteristics				.007	.091	.928	.006	.079	.937
Positive coping				.177	2.254	.025	.206	2.578	.011
Negative coping				.345	5.097	.000	.249	3.355	.001
Positive personality				-.215	-2.897	.004	-.234	-3.115	.002
OCB				-.142	-2.067	.040	-.110	-1.556	.121

Commitment		.116	1.568	.118	.104	1.335	.183
Predictors							
Motivation to learn					-.052	-.367	.714
Learning					.008	.055	.956
Transfer intention					.006	.062	.950
Cognitive dissonance					.226	3.046	.003
R^2	.057		.366			.395	
ΔR^2	.043		.334			.351	
F change	4.142		13.758			2.348	
Sig. F change	.007		.000			.056	

In Table 3.11, in which negative well-being is the dependent variable, Model I, with demographic information as the predictors, explained 5.7% of the variance and was significant ($F(3, 205) = 4.142$, $p < .007$). Model II, in which psychosocial characteristics were added, explained significantly more variance (R^2 change = .309, $F(7, 198) = 13.758$, $p < .000$). The model explains 33% of the variance in negative well-being (Adjusted $R^2 = .334$). Model III, in which training attitudes were added, explained slightly more variance but this increase was not significant (R^2 change = .029, $F(4, 194) = 2.348$, $p > .056$). Model III explains 35% of the variance in negative well-being (Adjusted $R^2 = .351$) and was significant ($F(14, 194) = 9.046$, $p < .000$). The significant predictors in Model III were negative work characteristics, coping, personality and cognitive dissonance.

In summary, after controlling for demographics and psychosocial characteristics, only cognitive dissonance significantly predicted negative well-being,

while motivation to learn, learning and transfer intention did not significantly predict either positive or negative well-being.

3.4. Discussion

This study aimed to investigate the association between psychosocial characteristics, four training attitudes and well-being. Two hypotheses were developed to achieve this aim. First, it was hypothesised that employees with certain types of psychosocial characteristics influence their attitudes towards training. Second, training attitudes would have an impact on one's level of well-being, after controlling for other variables.

The results show that positive personality has a positive association with motivation to learn, learning and transfer intention. This finding suggests that those who have a positive personality, are more motivated to learn the knowledge and skills being presented in the training programs. They also tend to better understand the training programs' content and have the intention to implement the new knowledge and skills to their work setting. The finding observed in this study mirrors those of previous studies, such as the work of Noe, Tews, and Marand (2013) and Kim, Oh, Chiaburu, and Brown (2012). For example, Noe et al. (2013) found that all of the Big Five personalities and generalised self-efficacies have a positive relationship and significantly influenced informal learning. The possible explanation of this finding might be that those with high positive personality are more eager to seek better opportunities for development (Simmering, Colquitt, Noe, & Porter, 2003), and look forward to learning new things and embrace the process of learning (Noe et al., 2013), hence making them utilise the learning opportunities for their knowledge and skill development.

The results also reveal that OCB significantly predicts motivation to learn and learning. Meanwhile, commitment significantly predicts motivation to learn, learning and transfer intention. These findings are consistent with those of Anvari, Amin, Ismail, Ahmad, and Seliman (2011), who found that affective organisational commitment and perceived support have a significant positive correlation with motivation to learn and training attitudes. One of the possible explanations for the relationship between positive work behaviour and positive training variables may be its link with organisational culture. Elangovan and Karakowsky (1999) model had proposed the influence of organisational culture in training, where an organisation that fosters employee development and growth, and encourages employee initiative will have a positive impact on the trainee and transfer of training. It can be said that OCB and affective commitment are associated with organisational culture, and the relationship between them has been confirmed by Islam, Ahmed, and Ahmad (2015) and Ashikali and Groeneveld (2015).

The association between negative work characteristics and motivation to learn could be observed in this study. This finding is similar to those of Mathieu, Tannenbaum, and Salas (1992), who determined that situational constraints, which are characterised as receiving little information from sources other than training, not having enough equipment and supplies, less authority to complete tasks and not enough time to complete their job successfully, predict low motivation to learn. A possible explanation for this is that trainees may have a high intention to transfer the knowledge and skills to the work setting, but due to having high demands and effort were not given adequate time to actually perform the new skills. This situation may, therefore, lead to the trainee becoming frustrated. Hence, such frustration would most

likely negatively affect how they approached future training programs (Mathieu et al., 1992).

Regarding the association between psychosocial characteristics and cognitive dissonance, it was found that trainees who perceived their work as having negative work characteristics and employ negative coping, are more prone to face cognitive inconsistency or feelings of uncomfortableness whenever the newly acquired knowledge and skills were being applied. Research on cognitive dissonance in the context of training and its relation to individual and work-related antecedents is still under exploration. However, some consistency could be seen with the work of Bernerth, Walker, and Harris (2016) and Bashshur, Hernández, and González-Romá (2011). Some authors have speculated that the bad relationship or disagreement between employee and supervisor (Bashshur et al., 2011; Bernerth et al., 2016), organisational change or a hazardous work environment (Bernerth et al., 2016) may contribute to the employee experiencing dissonance, where they feel uncertain and conflicted regarding whether to use the new knowledge and skills or simply maintain their previous knowledge and skills.

Moving on the primary objective of this study, which examines the link between attitudes toward training on positive and negative well-being among workers after controlling for other variables, the control variables were age, gender, education and psychosocial characteristics. It was essential to control for these variables because well-being can be influenced by various factors. Hence, to investigate the impact of attitudes towards training on individuals' levels of well-being, these other variables need to be controlled for.

It was determined that motivation to learn, learning and transfer intention were positively correlated with positive well-being, while cognitive dissonance was associated with negative well-being. The associations between positive training attitudes and positive well-being were, however, no longer significant when established predictors were controlled for. This result suggests that earlier results attributed to training attitudes may reflect other factors and that personality and commitment are stronger predictors than motivation to learn, learning and transfer intention. Some prior studies that have noted the importance of personality on one's level of well-being include Strickhouser, Zell, and Krizan (2017) and Howell, Ksendzova, Nestingen, Yerahian, and Iyer (2016). The former authors found that all of the Big Five personality factors as a whole had a moderate to substantial effect on health and well-being, particularly concerning health behaviour and mental health. Meanwhile, in this study, those with a positive personality and who were characterised as having a high level of extraversion, agreeableness, conscientiousness, openness to experience, and low neuroticism, along with high self-esteem, self-efficacy and optimism, tended to have a high level of well-being. Some authors have speculated that when individuals have high positive personality, they will experience frequent positive emotions because this personality helps them to achieve their relatedness and personal competence needs (Howell et al., 2016). Meanwhile, Lui et al. (2016) suggest that being socialised with other people tends to shape their optimistic expectancies and help in activating the application of approach-oriented coping behaviours, which in turn elevates their well-being level. Also, due to having a positive personality, they were more socially connected to society, which led them to be more satisfied with their lives and therefore were happier (Harris et al., 2017).

The current study also found that commitment positively associated with well-being. This finding further supports the proposal of Meyer and Maltin (2010), who gathered evidence regarding the importance of organisational commitment on employees' levels of well-being. The affective commitment could predict general health (Bridger, Kilminster, & Slaven, 2006), positive affect (Thoresen, Kaplan, Barsky, Warren, & de Chermont, 2003), physical well-being (Siu, 2002), life satisfaction (Zickar, Gibby, & Jenny, 2004) and many more factors. As suggested by Glazer and Kruse (2008), a possible explanation for this phenomenon may be the buffering effects of commitment on stressor-strain relations. According to the authors, workers with a high affective commitment to the organisation are less likely to experience stress in the workplace, or they are more likely to receive greater access to resources (Glazer & Kruse, 2008). Commitment seems to provide a meaningful relationship between employees and the organisation; hence, the employee may better accept the anxiety caused by workplace stressors.

Moving onto the results regarding the positive association between cognitive dissonance in the context of training and negative well-being, this finding suggests that workers who experience cognitive inconsistency, which is characterised as feeling uncomfortable when using new knowledge or skills and feeling conflicted or confused regarding whether or not to use the newly acquired knowledge and skills in the work setting, tend to perceive themselves as having more stress and being anxious and depressed. This finding appears to be robust in that even though there were significant correlations between attitudes towards training and well-being, after controlling for other variables, only cognitive dissonance significantly impacted negative well-being.

As proposed by Festinger (1962), cognitive dissonance theory explains the 4-step process of dissonance arousal and reduction, that starts with (1) cognitive

inconsistency or discrepancy; (2) the feeling of dissonance where an individual feels an uncomfortable negative affective state; (3) an individual feels the motivation to reduce dissonance; and (4) discrepancy reduction where an individual adjusts their cognition or behaviour to reduce cognitive inconsistency. For example, in this study, cognitive dissonance occurs when an individual learns something new in the training program that contradicts their prior knowledge or routine. If an individual is firmly committed to that particular prior knowledge or routine, they most likely will end up refusing the new knowledge that requires them to dispose of their existing knowledge in order to reduce feelings of dissonance (Vince, 2002). Individuals that experience high cognitive dissonance are reported to feel stressed, and this finding is consistent with that of Palsane (2005). Uncomfortable negative affective states, or dissonance caused by two or more cognitive conflicts, will lead to feelings of discomfort, arousal and restlessness (Festinger, 1962), hence increasing individuals' levels of stress. This study has highlighted the influence of cognitive dissonance in the context of training on individuals' level of negative well-being.

3.4. 1 Implication, limitations and future directions

This research has several implications. It contributes to the existing body of knowledge, and also in the creation of new knowledge, along with more practical use. First, this study examined the influence of various psychosocial characteristics on training attitudes, using an approach of individual and situational characteristics as the antecedents of training motivation (Colquitt et al., 2000). Thus, the results confirm the associations between certain types of characteristics and four training attitudes. For example, Colquitt et al.'s (2000) integrative model provided a comprehensive overview of the predictors of training motivation and learning outcomes. The predictors consisted of various personal characteristics (e.g. locus of control and

consciousness), situational variables (climate, manager and peer support) and job variables (e.g. organisational and career commitment, career planning). The findings in this study confirm a few associations from the model, especially the association between personality, commitment and work characteristics with our training attitudes variables. Therefore, the study contributes to the existing body of knowledge.

Moreover, this study makes a contribution by confirming associations between individual differences and work characteristics, and well-being in the DRIVE model (Mark & Smith, 2008). For example, the associations between personality, coping and work characteristics with well-being are consistent with the simplified version of the model (discussed in Chapter 2, section 2.2.1.1, page 23). As mentioned earlier, the flexibility of this model allows any organisational variables to be inserted into the framework either as the predictor or an outcome. Consequently, introducing training attitudes into the model revealed that cognitive dissonance was positively associated with negative well-being. This finding adds extra information and makes the model more comprehensive in terms of explaining the interactions and associations between the independent variables and well-being.

Second, because this study is the first to combine several training attitudes simultaneously and most importantly within the context of training into a well-being research context, the findings from this work thus contribute to new knowledge. In this study, training attitudes consisting of motivation to learn, learning, transfer intention and cognitive dissonance in the context of training were selected to explore the influence of these variables on well-being. Past studies in the training field have found that these variables are useful in predicting training effectiveness and transfer of training (Blume, Ford, Baldwin, & Huang, 2010; Burke & Hutchins, 2007; Elangovan & Karakowsky, 1999; Velada, Caetano, Michel, Lyons, & Kavanagh,

2007). The primary objective of this study was to examine whether these training attitudes could also predict well-being, with the results revealing that all of these variables have an association with well-being, and cognitive dissonance could predict one's level of well-being. The combination of both training and well-being research fields in this study provide new knowledge and perspectives, where researchers in the training field should also consider adding well-being in their research even though the training programs are not aimed at enhancing trainees' well-being and focus on improving job-related skills.

These findings will, therefore, be of practical use among training practitioners or to others who may find this relevant and beneficial to them. As an example, because it was seen that cognitive dissonance could influence well-being; trainers could encourage their trainees to be more confident in applying the new knowledge and skills into the work setting and convince them that such new knowledge and skills are better than their previous knowledge and skills before attending training. This approach could not only increase the transferability of the training or allow training programs to be more successful but may also be beneficial to trainees, where the enrichment of well-being could still be achieved even though the programs were not aimed to increase their level of well-being.

This study does, however, have some limitations. First, its results cannot be generalised because participant selection was purposive and involved convenience sampling; it is not random and stratified and only focused on specific criteria, which were aimed at workers who have experience in attending training programs only. Second, this study examined four attitudes in the context of broad training programs. The participants had undergone various types of programs or courses, such as those related to human resources; hence, a clear distinction cannot be made as to which of

the courses actually helped improve workers' well-being. Their attitudes toward certain programs or courses may differ and may also have different influences on well-being levels. Lastly, the study used a cross-sectional method, hence no cause and effect relationships can be suggested between training attitudes and well-being.

There are a few improvements that could be made to this study. First, since the study examined attitudes to training in a broader context, future research could focus on more specific programs or courses and investigate whether the specific content of the programs or courses might produce different levels of attitudes, hence influencing to varying degrees individual well-being levels. Second, an improvement could be made if a study applied a longitudinal approach, preferably with an intervention, which could not only examine well-being changes over time but also determine the causal effect of the relationship between training attitudes and well-being.

3.5. Conclusion

Training is vital for developing and enhancing one's expertise to meet current and future job demands and continue personal development. At the same time, well-being needs to remain positive and high to ensure that employees can perform well in their job, become more productive and prevent any mental health issues. Results of this study have shown that positive training attitudes, comprising motivation to learn, learning and transfer intention, have a relationship with well-being. However, these associations were no longer significant when personality and commitment were controlled for. Meanwhile, cognitive dissonance was found to predict negative well-being among workers, and this relationship remained significant even when established predictors were controlled for. The study in this chapter provided some evidence on the link between training attitudes and well-being, but more studies are needed to confirm this relationship. Thus, the study in the next chapter examined the

associations between the variables, using a slightly different design and approach, and, most importantly, applying a different type of training, which focused on naturally occurring training that involved participants in an educational setting.

Chapter 4:

Associations between Psychosocial Characteristics, Training Attitudes, Well-being and Academic Attainment: A Longitudinal Study among Undergraduate Students (Study 2)

4.1. Introduction

The aim of this project is to investigate the links between training attitudes and individuals' levels of well-being. We hypothesised that individuals with positive training attitudes (motivation to learn, learning and transfer intention) would also attain high scores in positive well-being, while individuals with negative training attitudes (cognitive dissonance) would have low well-being scores.

This study is a replication from the previous chapter that also attempted to bridge the gap between training effectiveness predictors and well-being. However, a few changes have been made to extend the research. First, for example, this study moved from a cross-sectional design (Chapter 3) to a longitudinal design, having two phases of data collection and introducing certain variables at different time points. The initial objective of choosing longitudinal over cross-sectional design stemmed from the limitation of a cross-sectional design to draw a causal inference. According to Lindell and Brandt (2000) and Podsakoff et al. (2003), a cross-sectional study's common method variance bias severely limits the researcher's ability to draw causal inferences and creates potential rival explanations. Therefore, gathering data over

multiple time periods may reduce the threat of common method variance bias and enhance causal inference (Jap & Anderson, 2004; Podsakoff et al., 2003).

In a second variation, this work focused on training in the context of an educational setting, using a sample comprising undergraduate students. Training and education are different in a number of aspects, but both concepts share an essential element, where both of them involve a learning process. The central focus of both activities is to develop individual knowledge and skills, and enhance human potential and talent (Garavan, 1997). Garavan (1997) outlined the distinctions between training, education and development. In his article, the focus of the activities for training is the knowledge, skills, ability and job performance, while the focus of education, on the other hand, is on personal development and the experiences of life. Sometimes education can be formal, in which it is more of a structured development of an individual to specific outcomes. He also added that training objectives could be very specific and clear; however, the objectives of education are usually stated in general terms and can be different for each module or subject. In terms of time scale, training will usually be held in a short period of time, while informal education, on the other hand, can be lifelong, or formal education can be within a specified period, for example, three or four years. Meanwhile, looking at the nature of the learning process, both training and formal education can be structured and mechanistic.

In summary, even though training and education have some differences, it can be concluded that they are similar because both fundamentally involve learning (Garavan, 1997). Also, training among university students is common today and can take place in many forms; for example, workshop-focused programmes or even coursework. Consequently, not only is it crucial to investigate the association between

training attitudes and the well-being of workers, but it is also worth examining the association between these variables in an educational context among students.

The present study also paid attention to the first-year undergraduate student as the sample, because it has been reported that, during the entry stage, new students often face various difficulties and challenges. According to Stewart (1995), students at this stage may have problems in maintaining motivation, complying with academic demands and establishing a clear purpose. He also mentioned that students might experience a decrease in independence and increased isolation. It was also mentioned in the article that students in the following stage, which is the engagement and exit stage, may also have their own difficulties and challenges. However, for the purpose of this study, only students at the entry stage were selected as samples.

Moreover, because university students were selected as the sample, it is also worth investigating the influence of psychosocial characteristics and training attitudes (in the context of the education setting) on students' levels of academic achievement. Richardson, Abraham, and Bond (2012) have conducted a systematic review and meta-analysis with regard to psychological correlates of university student's academic performance. They revealed that many psychological factors could influence students' grade point average (GPA), and among them are personality traits, especially conscientiousness which was the strongest correlate of GPA among the Big Five personality traits. Need for recognition, and emotional intelligence had a small positive correlation with GPA, whereas procrastination had a little negative relationship with academic GPA. They added that motivational factors including locus of control, academic self-efficacy, academic motivation (intrinsic and extrinsic), performance goal orientation and grade goal had a small to strong correlation with GPA. Furthermore, self-regulatory learning strategies (e.g. metacognition, critical

thinking, elaboration, time/study management, help-seeking, peer learning and effort regulation) and psychosocial contextual influences (e.g. goal commitment, psychological health, social support and academic stress) had a small to medium correlation with GPA.

Hence, by using the existing variables from the previous chapter (Chapter 3) as the predictors, we hypothesised that specific types of psychosocial characteristics (coping, positive personality, work characteristics, OCB and commitment) and training attitudes (motivation to learn, learning, transfer intention and cognitive dissonance) would be associated with students' levels of academic performance.

The first objective of this study is to examine the influences of psychosocial characteristics on training attitudes. Meanwhile, the second objective of this work is to investigate the impact of psychosocial characteristics and training attitudes on well-being and academic attainment among undergraduate students. Thus, the hypotheses of this chapter are:

H1: Psychosocial characteristics influence training attitudes (motivation to learn, learning, transfer intention and cognitive dissonance),

H2: Psychosocial characteristics and training attitudes predict individuals' level of well-being and academic achievement.

4.2. Method

4.2.1 Research design

This research involved a quantitative longitudinal study, comprising two phases of data collection. The questionnaires measured various psychosocial characteristics, four training attitudes, and the levels of well-being and academic attainment among undergraduate psychology students at Cardiff University.

4.2.2 Participants

A total of 180 undergraduates (first-year psychology students) completed the study at Time 1. From this number, 95 students (52.78% return rate) completed both surveys at Times 1 and 2. At Time 1, the majority of the 180 respondents were female (156, 86.7%), born in the year 1998 (85, 47.2%), White (132, 73.3%) and native speakers of English (156, 86.7%). Meanwhile, out of the 95 students who participated in both phases, the majority were female (83, 87.4%), born in the year 1998 (46, 48.4%), White (69, 72.6%) and native speakers of English (80, 84.2%).

Table 4.1

Numbers of participants in each phase of data collection

Phases of data collection	**Total participants**
Time 1	180
Time 1 and 2	95

Table 4.2

Demographic description of the sample

Demographic		**Time 1 (*n* = 180)**		**Times 1 and 2 (*n* = 95)**	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Gender	Male	24	13.3	12	12.6
	Female	156	86.7	83	87.4
Birth year	1985	1	0.6	1	1.1
	1993	2	1.1	1	1.1
	1994	2	1.1	1	1.1
	1995	3	1.7	1	1.1
	1996	10	5.6	4	4.2
	1997	77	42.8	41	43.2
	1998	85	47.2	46	48.4

Race/ Ethnicity	White (English/ Welsh/ Scottish/ Northern Irish/ British)	132	73.3	69	72.6
	White (Other)	19	10.6	9	9.5
	Asian/ Asian British	18	10.0	12	12.6
	Black African/ Caribbean/ Black British	2	1.1	1	1.1
	Mixed/ Multiple ethnic groups	6	3.3	4	4.2
	Other ethnic group	3	1.7	0	0
Native speaker	Yes	156	86.7	80	84.2
	No	24	13.3	15	15.8

4.2.3 Procedure

Prior to conducting the study, ethical approval was obtained from the Ethics Committee, School of Psychology, Cardiff University. In this study, two-time points of data administration were required – Times 1 and 2.

The Time 1 data collection was undertaken during the induction week for all the psychology first-year undergraduate students. For this specific session, eight researchers were assigned to distribute questionnaires. Thus, each researcher needed to minimise the number of items asked in the maximum allocated time of five to ten minutes that was allocated per researcher. In this phase, the measures included demographics, three psychosocial characteristics, one training attitude (motivation to learn) and a baseline level of positive and negative well-being.

For Time 2, data collection was carried out one-and-a-half months before the examination week began. Four psychosocial characteristics (positive and negative work characteristics, OCB and commitment), three training attitudes (learning, transfer intention and cognitive dissonance), well-being (positive and negative well-being) and participants' academic achievement were recorded. Students could choose to be rewarded with extra course credit or by being paid.

The justification for asking about specific items at different time points was that some questions (i.e. all of the variables at Time 2) were not appropriate to be asked prior to the beginning of the university course. This approach was employed because the students may have been confused and might not have known how to respond to these questions due to not having had any experience related to the items being asked. Thus, in order for them to respond to these constructs, they had to undergo training in the context of university education first and to have gained some experience of university life.

4.2.4 Measurements

Similar to Chapter 3, a study in this chapter also used single-item measures because they have advantages over multiple-item measures. Chapter 3, section 3.2.4.1 (page 106) presents a detailed explanation of the measurements used.

4.2.4.1 Psychosocial characteristics and well-being

For psychosocial characteristics and well-being variables, the same measurements were used as in Study 1 (Chapter 3), comprising the short Smith Wellbeing scale (Short-SWELL; Smith & Smith, 2017). A detailed description of this measurement can be found in Chapter 3, section 3.2.4.2 (page 107). As mentioned earlier, some items were asked at Time 1 and Time 2 of the data collection.

The reliability of Time 1 items was found to be 0.778 with respect to Cronbach's coefficient alpha, with a 0.416 mean inter-item correlation. Meanwhile, the reliability of Time 2 items was 0.638 Cronbach's coefficient alpha, with a 0.221 mean inter-item correlation.

4.2.4.2 Training attitudes

Training attitudes consisted of motivation to learn, learning, transfer intention and cognitive dissonance. For these variables, the same measurements were used as in Study 1 (Chapter 3). Chapter 3, section 3.2.4.3 (page 108) provides a detailed description.

In this study, motivation to learn (four items) was asked at Time 1, while learning (three items), transfer intention (two items) and cognitive dissonance (two items) were administered at Time 2. The response scale for all training attitude items ranged from 1 (Strongly disagree) to 10 (Strongly agree). The reliability of motivation to learn was found to be 0.879, with a 0.656 mean inter-item correlation. Meanwhile, the reliability of learning and transfer intention was, respectively, 0.857 and 0.792, with a 0.668 and 0.657 mean inter-item correlation. Lastly, the reliability of the items used for cognitive dissonance was determined to be 0.654, with a 0.486 mean inter-item correlation.

Finally, cognitive dissonance had two items and was also administered at Time 2, with the reliability of these items was determined to be 0.654, with a 0.486 mean inter-item correlation. The response scale for all training attitude items ranged from 1 (Strongly disagree) to 10 (Strongly agree).

4.2.4.3 Academic attainment

For academic attainment, students' academic scores in three subjects from the mid-term examination—Psychological Research, Research Methods in Psychology and Introduction to Psychology—were obtained from the school.

The list of questions in the survey, and the frequencies (%) in the different response categories are shown in the Appendix.

4.2.5 Data analyses

All data were analysed using IBM Statistics SPSS 20 and included both descriptive and inference analyses comprising a T-test, correlation and multiple regression. The use of correlation analysis is necessary to investigate the relationship between psychosocial characteristics, training attitudes, well-being and academic attainment. Meanwhile, regression analysis is essential for examining the influence of psychosocial characteristics on training attitudes and to investigate the impact of psychosocial characteristics and training attitudes on well-being and academic achievement.

4.3 Results

The aim of this study was to investigate the link between training effectiveness predictors, referred to as training attitudes, and individuals' level of well-being. Hence, two main hypotheses were created to achieve this aim. First, it was hypothesised that psychosocial characteristics influence training attitudes, and second, psychosocial characteristics and training attitudes predict one's well-being and academic attainment. The research findings will be presented in two parts. First is the descriptive analysis and second is the inferential analysis.

4.3.1 Descriptive analysis

This section presents a descriptive analysis of each variable. The means and standard deviations, along with minimum and maximum values are presented for psychosocial characteristics at Times 1 and 2, training attitudes at Times 1 and 2, well-being at baseline and follow-up, and finally academic performance.

Table 4.3

Descriptive statistics of psychosocial characteristics, training attitudes, well-being and academic attainment

Variables	**N**	**Mean**	**Standard Deviation**	**Min.**	**Max.**
Time 1					
Positive coping	180	6.93	2.014	1	10
Negative coping	180	5.71	2.276	1	10
Positive personality	180	6.14	2.510	0	10
Motivation to learn	180	32.19	5.837	0	40
Positive well-being	180	6.83	2.097	0	10
Negative well-being	180	5.08	2.453	0	10
Time 2					
Negative work characteristics	95	5.98	1.856	2	10
Positive work characteristics	95	6.53	1.688	2	9
OCB Model student	95	5.59	2.060	0	10
Commitment	95	6.77	2.086	2	10
Learning	95	21.13	5.009	9	30
Transfer intention	95	12.63	3.612	4	20
Cognitive dissonance	95	10.19	3.334	3	20
Positive well-being	95	6.80	2.300	1	10
Negative well-being	95	4.60	2.304	1	10
Academic attainment	180	59.94	10.475	.00	77.33

To summarise Table 4.3, which presents means and standard deviations of all variables in each phase of the data collection, it was shown that those who participated at Time 1 mostly have a moderate positive personality, employ moderate positive and negative coping, and moderate positive and negative well-being. It was also shown that participants have a high motivation to learn (M = 32.19, SD = 5.84).

Moving on to Time 2, those who participated in all phases of the data collection were moderate in both positive and negative work characteristics, OCB and commitment, positive and negative well-being, along with being moderate in transfer intention and cognitive dissonance. However, it was demonstrated that participants scored high in the learning variable (M = 21.13, SD = 5.01). Lastly, a moderate score could also be seen for academic attainment.

4.3.2 Inferential analysis

For the inferential analysis, which will determine whether the hypotheses will be accepted or rejected, correlation analyses will be presented first, followed by both multiple and hierarchical regressions

4.3.2.1 Hypothesis 1: Psychosocial characteristics influence training attitudes

The first objective of this study was to determine the predictors of training attitudes in the context of educational settings. Two types of analyses were performed to investigate the influence of psychosocial aspects at Times 1 and 2 on motivation to learn (Time 1), and learning, transfer intention and cognitive dissonance (Time 2). First, a correlation analysis was conducted, followed by regression analyses to examine the association between independent and dependent variables. However, due to the small sample size, where only 95 participants took part in both phases of the data collection, the regression analyses needed to be interpreted with caution.

Table 4.4

Correlation analysis between psychosocial characteristics, training attitudes and well-being

Variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**	**(13)**	**(14)**	**(15)**
PC (T1) **(1)**	1														
NC (T1) **(2)**	-.517**	1													
PP (T1) **(3)**	.425**	-.391**	1												
MTL (T1) **(4)**	.447**	-.248**	.151*	1											
PWB (T1) **(5)**	412**	-.390**	.590**	.150*	1										
NWB (T1) **(6)**	-.175*	.404**	-.405**	.051	-.561**	1									
NWC (T2) **(7)**	-.119	.054	-.068	-.122	-.070	.161	1								
PWC (T2) **(8)**	.112	.018	.209*	.165	.226*	-.156	-.268**	1							
OCB (T2) **(9)**	.235*	-.159	.284**	.179	.146	-.009	-.022	.124	1						
CM (T2) **(10)**	.260*	-.283**	.174	.290**	.218*	-.108	-.108	.422**	.275**	1					
LN (T2) **(11)**	.210*	-.097	.180	.222*	.194	-.093	-.089	.558**	.358**	.552**	1				
TI (T2) **(12)**	.166	-.103	.057	.262*	.187	-.115	.002	.341**	.498**	.575**	.673**	1			
CD (T2) **(13)**	-.335**	.292**	-.214*	-.257*	-.161	.000	.183	-.258*	-.221*	-.229*	-.195	-.079	1		
PWB (T2) **(14)**	.218*	-.161	.303**	.218*	.392**	-.303**	-.068	.167	.272**	.452**	.220*	.343**	-.227*	1	
NWB (T2) **(15)**	-.178	.237*	-.307**	-.138	-.396**	.429**	.152	-.096	-.053	-.163	-.050	-.049	.176	-.678**	
AS (T2) **(16)**	.068	-.136	-.019	.160*	.006	.081	-.100	.139	.041	.185	.077	.048	-.138	-.060	.008

*PC = Positive coping, NC = Negative coping, PP = Positive personality, MTL = Motivation to learn, PWB = Positive well-being, NWB = Negative well-being, NWC = Negative work characteristics, PWC = Positive work characteristics, OCB = organisational citizenship behaviour, CM = Commitment, LN = Learning, TI = Transfer intention, CD = Cognitive dissonance, AS = Academic Scores, T1 = Time 1, T2 = Time 2. ** p > .001, * p > .05.*

Motivation to learn was one of the training attitude variables that was recorded at Time 1 (pre-test), along with three psychosocial characteristics, including negative coping, positive coping and positive personality. Table 4.4 revealed that there was a significant positive correlation between positive coping and motivation to learn (equal to $r(178) = .45$, $p < .01$) and a weak positive correlation with positive personality (equal to $r(178) = .15$, $p < .01$). In addition, a negative relationship could be seen between negative coping and motivation to learn (equal to $r(178) = -.25$, $p < .05$).

Meanwhile, the regression analyses in Table 4.5 showed that all three psychosocial characteristics at Time 1 significantly explained 20.3% of the variance in the motivation to learn, and only positive coping significantly predicted this variable (beta = .45). This finding suggests that students who actively employed positive coping strategies, such as focusing on a problem and trying to resolve it, as well as receiving social support, were more eager to learn new things at university.

Table 4.5

The predictors of motivation to learn

Model	**Beta**	**Std err**	**β**	**T**	**P**
Positive coping	1.196	.217	.452	5.510	.000
Negative coping	-.091	.189	-.039	-.481	.631
Positive personality	-.122	.162	-.058	-.752	.453
Model: R = .451, R^2 = .203				F = 14.876	.000

Three attitudes to training were asked at Time 2 — learning, transfer intention and cognitive dissonance. The correlation analyses (Table 6) revealed that positive coping had a positive correlation with learning (equal to $r(93) = .21$, $p < .05$), and was negatively correlated with cognitive dissonance (equal to $r(93) = -.34$, $p < .01$). In addition, a positive relationship could be seen between negative coping and cognitive

dissonance (equal to $r(93) = .29$, $p < .01$), while positive personality had a weak negative correlation with cognitive dissonance (equal to $r(93) = .21$, $p < .05$).

Next, four psychosocial characteristics were recorded at Time 2 — positive and negative work characteristics, OCB and commitment. The correlation analysis (Table 4.4) demonstrated that positive work characteristics, OCB and commitment had a significant positive correlation with learning and transfer intention. All of them were greater than, or equal to $r(93) = .34$, $p < .01$. On the contrary, a significant negative relationship could be seen among positive work characteristics, OCB and commitment to cognitive dissonance. The relationships were greater than, or equal to, $r(93) = .22$, $p < .05$.

Meanwhile, regression analyses in Table 4.6 revealed that when learning is the dependent variable, Model I, with Time 1 psychosocial characteristics (positive and negative coping and positive personality) as the predictors, explained 2.4% of the variance and was not significant ($F(3, 91) = 1.84$, $p > .156$). Model II, in which four psychosocial characteristics that were recorded at Time 2 (positive and negative work characteristics, OCB, and commitment) were added, explained significantly more variance (R^2 change = .430, $F(4, 87) = 18.155$, $p < .000$). The model explains 48.5% of the variances in learning and was significant ($F(7, 87) = 11.715$, $p < .000$). The significant predictors in Model II were positive work characteristics, OCB and commitment.

Table 4.6

The predictors of learning

Dependent variable	**Learning**					
Independent variable	**Model I**			**Model II**		
Step 1 (Time 1)	**β**	**t**	**p**	**β**	**t**	**p**
Positive coping	.177	1.453	.150	.069	.737	.463
Negative coping	.031	.263	.793	.041	.440	.661
Positive personality	.119	1.053	.295	-.034	-.376	.708
Step 2 (Time 2)						
Positive work characteristics				.410	4.511	.000
Negative work characteristics				.065	.806	.422
OCB				.291	2.634	.010
Commitment				.325	3.529	.001
R^2		.056			.485	
ΔR^2		.056			.430	
F change		1.784			18.155	
Sig. F change		.156			.000	

Meanwhile, Table 4.7 indicates that, when transfer intention is the dependent variable, Model I, with Time 1 psychosocial characteristics (positive and negative coping and positive personality) as the predictors, explained 0.4% of the variance and was not significant ($F(3, 91) = .882$, $p > .454$). Model II, in which four psychosocial characteristics (positive and negative work characteristics, OCB, and commitment) were added, explained more variance and was significant (R^2 change = .471, $F(4, 87) = 20.478$, $p < .000$). The model explains 45.9% of the variance in transfer intention and was significant ($F(7, 87) = 12.403$, $p < .000$). The significant predictors in Model II were OCB and commitment.

Table 4.7

The predictors of transfer intention

Dependent variable	**Transfer intention**					
Independent variable	**Model I**			**Model II**		
Step 1 (Time 1)	**β**	**t**	**p**	**β**	**t**	**p**
Positive coping	.157	1.268	.208	.033	.356	.723
Negative coping	-.032	-.261	.795	.037	.405	.687
Positive personality	-.017	-.146	.884	-.161	-1.826	.071
Step 2 (Time 2)						
Positive work characteristics				.161	1.799	.075
Negative work characteristics				.092	1.165	.247
OCB				.405	4.942	.000
Commitment				.435	4.792	.000
R^2		.028			.499	
ΔR^2		.028			.471	
F change		.882			20.478	
Sig. F change		.454			.000	

Regarding cognitive dissonance as the dependent variable (Table 4.8), Model I, with positive and negative coping, and positive personality that were recorded at Time 1 as the predictors, explained 10.9% of the variance and was significant ($F(3, 91) = 4.823$, $p < .004$). Model II, where the remaining psychosocial characteristics at Time 2 were added, explained slightly more variance, but this increase was not significant (R^2 change = .073, $F(4, 87) = 2.012$, $p > .100$). The model explained 14.7% of the variance in cognitive dissonance and was significant ($F(7, 87) = 3.309$, $p < .004$). However, none of the psychosocial characteristics at Times 1 and 2 significantly predicted this variable.

Table 4.8

The predictors of cognitive dissonance

Dependent variable	**Cognitive dissonance**					
Independent variable	**Model I**			**Model II**		
Step 1 (Time 1)	**β**	**t**	**p**	**β**	**t**	**p**
Positive coping	-.232	-1.994	.049	-.186	-1.601	.113
Negative coping	.154	1.357	.178	.181	1.566	.121
Positive personality	-.067	-.615	.540	.008	.068	.946
Step 2 (Time 2)						
Positive work characteristics				-.200	-1.779	.079
Negative work characteristics				.095	.953	.343
OCB				-.123	-1.195	.235
Commitment				-.002	-.021	.984
R^2		.137			.210	
ΔR^2		.137			.073	
F change		4.823			2.012	
Sig. F change		.100			.100	

4.3.2.2 Hypothesis 2: Psychosocial characteristics and training attitudes influence well-being and academic attainment

Moving on to the next objective, which was to investigate the predictors of positive and negative well-being, the correlation analyses in Table 4.6 demonstrated that all of the psychosocial characteristics at Time 1 (positive and negative coping, positive personality and motivation to learn) were significantly correlated with positive well-being at Time 1 (greater or equal to $r(178) = .15$, $p < .05$). Meanwhile, positive coping and positive personality were negatively associated with negative well-being (Time 1) (greater or equal to $r(178) = -.18$, $p < .05$), and negative coping was positively correlated with negative well-being at Time 1 that equal to $r(178) = .40$, $p < .01$.

Table 4.9 demonstrates regression analyses for positive and negative well-being at Time 1. The results show that psychosocial characteristics and motivation to learn explain 37.1% of the variance in positive well-being and 28.2% of the variance in negative well-being at Time 1. For positive well-being, positive personality makes the largest contribution (beta = .48). Meanwhile, for negative well-being, negative coping provides the largest unique contribution (beta = .46), followed by positive personality (beta = -.31) and motivation to learn (beta = 19).

Table 4.9

Regression analyses for well-being at Time 1

Positive well-being (Time 1)	**B**	**SE B**	**β**	**t**	**P**
Positive coping	.079	.080	.075	.978	.330
Negative coping	-.096	.066	-.104	-1.448	.150
Positive personality	.405	.057	.484	7.127	.000*
Motivation to learn	.043	.023	.119	1.834	.068
Model: R = .609, R^2 = .371				F = 25.789	.000*
Negative well-being (Time 1)	**B**	**SE B**	**β**	**t**	**P**
Positive coping	.071	.100	.059	.711	.478
Negative coping	.385	.083	.357	4.656	.000*
Positive personality	-.305	.071	-.312	-4.303	.000*
Motivation to learn	.083	.029	.198	2.872	.005*
Model: R = .531, R^2 = .282				F = 17.224	.000*

With regard to positive and negative well-being at Time 2, Table 4.4 reveals that almost all of the positive psychosocial characteristics (except for positive coping), along with motivation to learn, learning and transfer intention, have a significant positive correlation with positive well-being at Time 2. All were greater or equal to $r(93) = .22$, $p < .05$. In addition, a negative correlation could be seen between cognitive

dissonance and positive well-being at Time 2 (greater or equal to $r(93) = -.23$, $p < .05$). Next, negative coping was positively correlated with negative well-being at Time 2, which was equal to $r(93) = .24$, $p < .05$, while positive personality was negatively correlated with negative well-being (Time 2), equal to $r(93) = -.31$, $p < .01$. Lastly, the correlation table (Table 4.6) shows that only motivation to learn was significantly correlated with academic attainment, which was equal to $r(178) = -.16$, $p < .05$.

Meanwhile, the regression analyses in Table 4.1 revealed that when positive well-being is the dependent variable, Model I, with Time 1 psychosocial characteristics (positive and negative coping and positive personality) and motivation to learn as the predictors, significantly explained 8% of the variance ($F(4, 89) = 3.030$, $p < .022$). Model II, in which four psychosocial characteristics and three attitudes to training that were recorded at Time 2 were added, explained significantly more variance (R^2 change = .187, $F(7, 82) = 3.170$, $p < .005$). The model explains 21.4% of the variance in positive well-being and was significant ($F(11, 82) = 3.307$, $p < .001$). The significant predictors in Model II were positive personality and commitment.

Table 4.10

The predictors of positive well-being

Dependent variable	**Positive well-being**					
Independent variable	**Model I**			**Model II**		
Step 1 (Time 1)	**β**	**t**	**p**	**β**	**t**	**p**
Positive coping	-.002	-.015	.988	-.008	-.062	.950
Negative coping	-.018	-.158	.874	.103	.904	.369
Positive personality	.269	2.424	.017	.272	2.493	.015
Motivation to learn	.162	1.345	.182	.031	.271	.787
Step 2 (Time 2)						
Positive work characteristics				-.042	-.338	.736
Negative work characteristics				-.032	-.332	.741

OCB		.020	.180	.858
Commitment		.387	3.081	.003
Learning		-.218	-1.508	.136
Transfer intention		.238	1.606	.112
Cognitive dissonance		-.123	-1.169	.246
R^2	.120		.307	
ΔR^2	.120		.187	
F change	3.030		3.170	
Sig. F change	.022		.005	

Furthermore, Table 4.11 indicates that, when negative well-being is the dependent variable, Model I, with Time 1 psychosocial characteristics and motivation to learn as the predictors, significantly explained 7.8% of the variance ($F(4, 89) = 2.956$, $p < .024$). Model II, in which four psychosocial characteristics and three attitudes to training that were recorded at Time 2 were added, explained slightly more variance, but this increase was not significant (R^2 change = .043, $F(7, 82) = .599$, $p > .755$). The model explains 4.8% of the variance in negative well-being and was not significant ($F(11, 82) = 1.422$, $p > .179$). The only significant predictor in Model II was positive personality.

Table 4.11

The predictors of negative well-being

Dependent variable	**Negative well-being**					
Independent variable	**Model I**			**Model II**		
Step 1 (Time 1)	**β**	**t**	**p**	**β**	**t**	**p**
Positive coping	.062	.449	.654	.067	.471	.639
Negative coping	.138	1.183	.240	.105	.839	.404
Positive personality	-.271	-2.441	.017	-.293	-2.441	.017
Motivation to learn	-.090	-.749	.456	-.060	-.475	.636
Step 2 (Time 2)						
Positive work characteristics				-.039	-.285	.776
Negative work characteristics				.132	1.236	.220
OCB				.105	.844	.401
Commitment				-.093	-.670	.505
Learning				.134	.842	.402
Transfer intention				-.064	-.394	.694
Cognitive dissonance				.068	.586	.559
R^2		.117			.160	
ΔR^2		.117			.043	
F change		2.956			.599	
Sig. F change		.024			.755	

Lastly, Table 4.12 reveals that, when academic attainment is the dependent variable, Model I, with three psychosocial characteristics and motivation to learn at Time 1 as the independent variables, significantly explains 13.0% of the variance ($F(4, 90) = 3.372$, $p < .013$). Model II, in which four psychosocial characteristics and three training attitudes at Time 2 were added, explained slightly more variance, but this increase was not significant (R^2 change = .025, $F(7, 83) = .344$, $p > .931$). The model explains 15.5% of the variance in academic attainment and was not significant (F(11,

83) = .1.383, $p > .197$). The only significant predictor in Model II was positive coping and motivation to learn.

Table 4.12

The predictors of academic attainment

Dependent variable	**Academic Attainment**					
Independent variable	**Model I**			**Model II**		
Step 1 (Time 1)	**β**	**t**	**p**	**β**	**t**	**p**
Positive coping	-.261	-2.043	.044	-.284	-2.104	.038
Negative coping	-.173	-1.496	.138	-.134	-1.072	.287
Positive personality	.131	1.199	.234	.111	.928	.356
Motivation to learn	.341	3.141	.002	.316	2.737	.008
Step 2 (Time 2)						
Positive work characteristics				.012	.090	.929
Negative work characteristics				-.035	-.323	.747
OCB				.016	.128	.898
Commitment				.147	1.068	.288
Learning				.004	.023	.982
Transfer intention				-.077	-.473	.637
Cognitive dissonance				-.073	-.630	.530
R^2		.130			.155	
ΔR^2		.130			.025	
F change		3.372			.025	
Sig. F change		.013			.931	

4.4. Discussion

This study aimed to investigate the influence of psychosocial characteristics on training attitudes and to determine the association between psychosocial characteristics and training attitudes in relation to student levels of well-being and their academic achievement. The psychosocial characteristics consisted of positive and negative coping, positive personality, positive and negative work characteristics, OCB

and commitment. Meanwhile, the attitudes toward training included motivation to learn, learning, transfer intention and cognitive dissonance. As for well-being, positive and negative well-being questions were asked at the beginning, and towards the end, of the semester, along with their academic scores.

Regarding the first objective, it was revealed that positive coping was positively associated with motivation to learn. This finding was similar to previous research including a study by Julien, Senécal, and Guay (2009) which discovered that autonomous or intrinsic motivation could be predicted by actively planning coping strategies. Also, positive work characteristics, OCB and commitment were positively related to learning. The association between specific psychosocial characteristics and training attitudes are in line with study in Chapter 3, which also found that psychosocial characteristics, mainly positive characteristics (positive personality, OCB and commitment), significantly correlated with positive training attitudes (motivation to learn, learning, and transfer intention). In addition, these results conform to the work of Anvari, Amin, Ismail, Ahmad, and Seliman (2011), who revealed that work-related characteristics — particularly commitment and OCB — have a positive relationship with training variables, especially motivation and learning outcomes.

For the second objective, some analyses have been conducted to examine the influence of psychosocial characteristics and training attitudes on well-being and academic attainment. First, the regression analysis showed that the students' level of well-being before the academic session start could be predicted by a number of variables. For example, positive well-being during induction week is predicted by a positive personality and negative coping strategies positively associated with negative well-being. In addition, it was found that motivation to learn positively associated

with negative well-being. This result suggests that those who eagerly want to learn new things in university also experience stress, anxiety and depression.

The positive association between motivation to learn and negative well-being surprisingly is not consistent with previous literature, such as Burton et al. (2006) and Bailey and Phillips (2016), which found that students with high intrinsic motivation were reported to have greater levels of well-being. Their findings are in line with the self-determination theory proposed by Ryan and Deci (2017), which suggested that individuals who possess high motivation, where they are curious to learn as well as explore new knowledge and skills, and find the learning process a pleasant experience, tend to have high life satisfaction, are happier, possess a greater sense of well-being and perform better in class (Ryan & Deci, 2017). However, through this study, it was found that motivation to learn is positively associated with negative well-being. It seems that new students do feel motivated to learn new things, but at the same time, they can feel the pressure of having to do well and feel nervous about facing a new journey (Stewart, 1995), which in turn develops a stronger sense of negative well-being.

Next, a correlation analysis was conducted to investigate the association between all psychosocial characteristics and training attitudes in both phases on well-being at Time 2. It revealed that positive training attitudes positively correlated with positive well-being, while negative training attitudes negatively correlated with positive well-being. Positive attitudes toward training include motivation to learn, learning, and transfer intention, whereas negative attitudes toward training consist of cognitive dissonance.

However, the associations between training attitudes and well-being at Time 2 were no longer significant when other predictors, particularly psychosocial characteristics, were included in the regression analyses. This finding suggests that earlier results attributed to training attitudes may reflect other factors and that personality and commitment are stronger predictors than motivation to learn, learning, transfer intention and cognitive dissonance. This study highlights the vital role of positive personality in well-being. It was revealed that positive personality predicts positive well-being in a positive direction and predicts negative well-being in a negative direction.

Certain prior studies have noted the importance of personality for individual levels of well-being, including Tanksale (2015) and Hojat, Gonnella, Erdmann, and Vogel (2003). Tanksale (2015) found that all of the Big Five personality traits (openness, extraversion, agreeableness, conscientiousness and emotional stability) explain 17% of the variance in life satisfaction, 35% of the variance in positive affect and 28% of the variance in negative affect. Meanwhile, medical students in the Hojat et al. (2003) study, who had less positive personality profiles, were reported to have poor physical health, which included higher scores for somatic and agitation symptoms and chronicity factors of health. The explanation for this result was that individuals with a positive personality are more flexible in the face of new challenges and experiences (McCrae & Costa, 2003), indicating a sociable life in which it is easy for them to form and maintain relationships (Arshad & Rafique, 2016). This type of disposition facilitated them in developing optimistic expectancies and helped them lessen their stress and anxiety and improve their well-being.

The last studied psychosocial characteristic that influences well-being is commitment. The impact of commitment on well-being can be seen from previous

studies (Kanste, 2011; McInerney, Ganotice, King, Morin, & Marsh, 2015; Morin et al., 2015). McInerney et al. (2015) revealed that commitment, particularly affective and normative commitment, could predict high psychological well-being at work, characterised as a feeling of competency, interpersonal fit and thriving at work, perceived recognition, desire for job involvement and high job satisfaction. Similarly, Kanste (2011) discovered that occupation commitment not only positively correlates with psychological well-being, but also has an association with other variables, such as work engagement, personal accomplishment, mental resources and the willingness to stay in an organisation. Also, Glazer and Kruse (2008) suggested that commitment could buffer the relationship between stressor and strain. One possible explanation is that commitment creates meaning in the overall relationship an individual has with an organisation, thus making the individual more accepting of the anxiety produced by work stressors (Glazer & Kruse, 2008). Therefore, in the present research, it may be that students' commitment towards their study and university makes them more open to accepting the anxiety caused by the stress from their study and coursework.

Finally, for academic attainment, it was revealed that positive coping negatively influences this dependent variable. This unexpected finding is not consistent with other research that found that positive coping was positively associated with high academic performance (Arsenio & Loria, 2014; Schellenberg & Bailis, 2016). There were some researchers who also found that positive coping strategies actually did not significantly influence academic achievement (Schiller et al., 2018; Thomas, Cassady, & Heller, 2017). A possible explanation behind the negative relationship between positive coping and academic attainment in the present study is that the positive coping construct was asked at the beginning of the semester, where it reflects on how the first-year student dealt with a problem before they started their life

as a university student. Meanwhile, their academic attainment scores were obtained a few months after. Hence, it might be that these students are still adjusting to university life, as mentioned by Stewart (1995), who noted that the first year could be somewhat challenging.

This study also found that motivation to learn was positively associated with academic achievement. This is consistent with Richardson et al. (2012) and Önder, Beşoluk, İskender, Masal, and Demirhan (2014), who revealed that academic motivation has a significant correlation with GPA. In addition, Komarraju, Karau, and Schmeck (2009) and Cokley (2003) found that intrinsic motivation toward accomplishments (performing a behaviour for the satisfaction of accomplishing a task or to feel competent) predicted academic performance. It seems possible that the positive relationship between academic motivation and academic achievement is due to the nature of intrinsic motivation in which individuals perform such behaviours out of pleasure or for the sake of enjoyment (Deci & Ryan, 2011) or to feel satisfied by the task accomplished (Vallerand et al., 1992). For example, a university student in this research studies psychology because he/she enjoys learning about human thinking and behaviour and getting a good grade. The enjoyment of learning such a course and the eagerness to get an excellent result helps him/her move forward, to keep on learning throughout the semester and in getting an excellent mark.

4.4.1. Implications, limitations and future directions

The present study contributes to the existing body of knowledge. This study was a replication from the previous chapter (Chapter 3) that also examined the link between training attitudes and well-being. The results of the present study are in line with those from Chapter 3, in which both positive training attitudes consisting of motivation to learn, learning and transfer intention, and negative training attitudes (cognitive

dissonance) are significantly correlated with positive well-being. However, the associations were no longer significant when other predictors were included. Similarly, both the aforementioned (Chapter 3) and present studies highlight the strong association between personality and commitment with respect to individual well-being.

Regarding the association between psychosocial characteristics and training attitudes, the findings contribute to the existing knowledge, particularly the associations found in Colquitt et al.'s (2000) integrative model. As an example, the relationship between work characteristics and commitment, with learning is in line with the model. The explanation of this statement can be found in Chapter 3, section 3.4.1 (page 122). Furthermore, this study confirms a few associations in the DRIVE model (Mark & Smith, 2008). For example, the relationship between personality and commitment, with well-being is consistent with the model, and these links can also be found in other studies (e.g. Mark & Smith, 2012; see also Capasso et al., 2016), which also used this model as their research framework. These results emphasise the importance of personality and commitment in determining individuals' level of well-being. Therefore, the findings in this study contribute to the existing body of knowledge.

A few limitations could be found with this study. First, the sample size was too small. Because this study was longitudinal, with two phases of data collection, only 95 participants completed both phases. Hence, more advanced analyses could not be performed and, in fact, the regression analyses need to be interpreted with caution. Second, this study examined four attitudes to training, in the context of an educational setting, where naturally occurring training took place. Throughout the semester, participants were involved with various classes that focused on different subjects, and

their overall attitudes towards these classes were recorded. As a result, a clear distinction cannot be drawn as to which classes or subjects may have influenced individual levels of well-being. It might be that attitudes towards different classes or programmes brought varying influences to the levels of well-being.

Third, although this study applied a longitudinal approach that involved two phases of data collection, a causal effect relationship could not be determined. The same variables (both independent and outcome variables) were not recorded twice due to the fact that questions regarding certain variables were not appropriate for the beginning of the semester; for example, variables related to learning, transfer intention and cognitive dissonance could not be recorded at Time 1 because the participants needed to experience the classes to be able to respond to the survey.

These limitations suggest recommendations and improvements for future studies. First, a better approach to selecting participants and consideration of a larger sample may be useful to provide data that can be analysed with greater confidence. Second, it may be more advantageous if the causal effect relationship could be examined. A repeated measures design, with three or four-time points for data collection, could be employed. This approach would not only add valuable facts to the body of knowledge but would also help to explain the link between training attitudes and well-being in greater detail. Third, a focus on a specific programme, module or course would be more meaningful in investigating whether attitudes to specific training programmes, lectures or modules helped to enhance individual levels of well-being. For example, two types of training programmes with different focuses (e.g. soft skills versus skills related to a job) may be useful for comparative purposes. Attitudes toward training in different contexts might also produce different well-being outcomes.

4.5. Conclusion

This study is the replication of the study from Chapter 3, and some changes have been made to expand the research. The used of a longitudinal design with two phases of data collection was implemented to examine the association between psychosocial characteristics, training attitudes in the context of the educational setting, well-being and academic attainment. In addition, changes in well-being throughout the semester were observed. Similar to Chapter 3, this study found that certain types of psychosocial characteristics, particularly the positive variables (positive personality, OCB and commitment) were positively associated with positive training attitudes (motivation to learn, learning and transfer intention). In addition, the positive attitudes of students towards their education or coursework (high motivation to learn, learning, transfer intention and low cognitive dissonance) are correlated with positive well-being. However, these relationships were no longer significant when personality and commitment were included. Meanwhile, academic performance could be influenced by positive coping and motivation to learn at the beginning of the semester. Further research is required to confirm these findings and thoroughly investigate the links between the factors analysed, especially in the context of specific training programmes. Hence, the study in the next chapter covers two types of training programmes: personal development meetings and academic tutorials.

Chapter 5:

Associations between Psychosocial Characteristics, Training Attitudes, Well-being and Academic Attainment in the Context of Personal Development Meetings and Academic Tutorials (Study 3)

5.1. Introduction

The information in this chapter builds on findings from previous studies (Chapters 3 and 4), in which these chapters have highlighted the link between training effectiveness predictors or, as we have called it, attitudes to training and individual levels of well-being. However, from the previous chapters, no firm conclusions can be drawn on training attitudes in which programme or module had a bigger impact on well-being. It might be that attitudes to certain programmes, modules or subjects promote different impacts on positive and negative well-being levels in individuals.

The study reported in this chapter is a replication of those discussed in Chapters 3 and 4, but with a few changes made to extend the investigation. More importantly, due to the limitations of the previous studies, both of which focused on various training programmes, the research underpinning this chapter aimed to further investigate the relationship between training attitudes on well-being, emphasising training attitudes in this specific context. Two programmes were chosen – personal development meetings (PDMs) and academic tutorials (ATs). The previous literature has found that participants experience different levels of psychological outcome (e.g. academic motivation and educational satisfaction) when attending different training

programmes/interventions (Fallon, 2019; Gonenc & Sezer, 2019). Fallon (2019) revealed differences in academic motivation between students who attended an academic support intervention and those who did not use this programme. Meanwhile, Gonenc and Sezer (2019) demonstrated that different training techniques exerted different effects on students, revealing that those in hybrid simulation and simulation with birth model experienced higher satisfaction with education than those having other educational techniques. Thus, due to the nature of PDMs and ATs, which have different learning objectives and focus on demonstrating different learning techniques, it is necessary to include these two programmes to extend the study.

A few variables related to psychosocial characteristics and training attitudes were added to this study to expand the relationship between psychosocial characteristics, training attitudes, well-being and academic attainment among undergraduate students. First, a measurement that assessed the various stressors experienced by the students was introduced. It is important to investigate the specific circumstances that students face because past studies have shown that such specific situations impact their level of well-being and academic success. Some of the circumstances or stressors include time pressures, challenges to development, social mistreatment, academic dissatisfaction, romantic and friendship problems and societal annoyances (Kohn, Lafreniere, & Gurevich, 1990). All six of these circumstances have been proven to be negatively associated with life satisfaction, positive affect and happiness (Denovan & Macaskill, 2017), while these stressors positively influence negative outcomes (anxiety, depression and stress; Williams, Pendlebury, Thomas, & Smith, 2017).

In addition, Hutchinson and Williams (2007) revealed that college students that frequently had exposure to these stressors (e.g. time pressures, social

mistreatment, academic dissatisfaction) also experienced serious depression over time (after two months and six months). Meanwhile, Williams et al. (2017) added that those who perceived that they had experienced these stressors were more prone to have cognitive problems, such as with memory, attention or actions, and could not get as much work done as they desired. Hence, it is important to include this construct as one of the psychosocial characteristics and to examine its association with training attitudes, well-being and academic achievement.

The second new variable is effort regulation, which was assessed in two contexts – with regard to student coursework and to PDMs and ATs. This was briefly mentioned in Chapter 4, where it was stated that academic achievement among university students could be predicted by various psychological factors, among which factors is effort regulation (Richardson, Abraham, & Bond, 2012). Effort regulation refers to a student's ability to persist at academic tasks regardless of all challenges and distractions (Pintrich, 1991). Pintrich (1991) added that those with a higher level of effort regulation were more committed to completing their study goals, had the ability to maintain cognitive engagement with academic tasks despite distractions, and were able to regulate learning strategies. A somewhat significant positive correlation was found between effort regulation and grade point average (Boyraz, Granda, Baker, Tidwell, & Waits, 2016; Richardson et al., 2012), while Credé and Phillips (2011) found that effort regulation was a stronger predictor of academic performance. Therefore, it seems that this new variable is one of the key determinants of academic achievement. Hence, effort regulation was employed in two contexts – the broad and specific contexts – in the present study.

The third new variable was reaction towards the programmes. In the training research field, four levels of training evaluation model, developed by Kirkpatrick

(1996), have been the most widely used for measuring the effectiveness of training programmes. The four levels include reaction, learning, behaviour and result. For the purpose of the present study, the reaction level was implemented because it assesses the degree to which participants perceive a training programme as favourable, engaging and relevant to themselves (Kirkpatrick & Kirkpatrick, 2016). In addition, as proposed by Kirkpatrick (1996), by measuring the reaction towards the programme, it is ensured that the participants are motivated and interested in learning the content of the programme. Moreover, since this study focused on two types of programmes (PDMs and ATs), it was worth examining whether the students felt that the programmes were effective and could help them to better academic attainment or increase their well-being level.

Similar to the studies in the previous chapters, the first objective of this study was to examine the influence of psychosocial characteristics on four training attitudes and the reaction towards training programmes. The second objective was to investigate the influence of attitudes toward training and programme reactions in the context of PDMs and ATs on well-being and academic attainment, after controlling the psychosocial characteristics. Thus, the hypotheses of this chapter are:

H1: Psychosocial characteristics influence training attitudes and reaction in both PDMs and ATs, and

H2: Training attitudes and reaction in both contexts influence well-being and academic attainment after controlling for psychosocial characteristics.

5.2. Methods

5.2.1. Research design

This study was quantitative and longitudinal, involving two phases of data collection, enquiring about undergraduate student psychosocial characteristics, training attitudes, reactions towards programmes, well-being and academic attainment.

5.2.2. Participants

A total of 380 students participated in Time 1, which occurred at the beginning of Semester 1 and 367 students participated in Time 2, which occurred at the beginning of Semester 2. However, only 274 students completed both phases. At Time 1, the majority of the 380 respondents were female (331, 87.1%), born in the year 1998 (149, 39.2%), White (270, 71.1%) and native speakers of English (320, 84.2%). Also, out of the 274 students who participated in both phases, the majority were female (239, 87.2%), born in 1998 (100, 36.5%), White (208, 76.2%) and native English speakers (237, 86.5%).

Table 5.1

Numbers of participants in each phase of data collection

Phases of the data collection	**Total participants**
Time 1	380
Time 1 and 2	274

Table 5.2

Demographic description of the sample

Demographic		**Time 1 (*n* = 380)**		**Time 2 (*n* = 274)**	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Gender	Male	49	12.9	35	12.8
	Female	331	87.1	239	87.2
Birth year	1982	1	0.3	1	0.4
	1993	3	0.8	3	1.1
	1994	1	0.3	1	0.4
	1995	3	0.8	3	1.1

	1996	17	4.5	8	2.9
	1997	109	28.7	74	27.0
	1998	149	39.2	100	36.5
	1999	97	25.5	87	30.7
Race/ Ethnicity	White (English/ Welsh/ Scottish/ Northern Irish/ British)	270	71.1	208	76.2
	White (Other)	45	11.8	28	10.3
	Asian/ Asian British	38	10.0	23	8.4
	Black African/ Caribbean/ Black British	2	0.5	2	0.7
	Mixed/ Multiple ethnic groups	15	3.9	8	2.9
	Other ethnic group	9	2.4	4	1.5
Native speaker	Yes	320	84.2	237	86.5
	No	60	15.8	37	13.5

5.2.3. Procedure

Prior to conducting the study, ethical approval was obtained from the Ethics Committee, School of Psychology, Cardiff University. In this study, two time-points of data administration were required – Times 1 and 2.

The Time 1 data collection was undertaken at the beginning of Semester 1, and the questionnaire comprised three sections. The first section asked about the participants' demographic information. The second asked about their psychosocial characteristics, consisting of positive and negative coping mechanisms and positive personality traits. The third section recorded the participants' levels of well-being before the academic year started.

Time 2 data collection was undertaken at the beginning of Semester 2, and the questionnaire comprised five sections. Section 1 focused on the participants'

psychosocial characteristics, consisting of positive and negative work characteristics, OCB, commitment, effort regulation and stress exposure. Sections 2 and 3 focused on five attitudes towards training, namely, motivation to learn, learning, transfer intention, cognitive dissonance, and effort regulation in the context of PDMs and ATs. Section 4 assessed the students' reactions towards the programmes, whilst section 5 recorded their level of well-being after the semester had finished.

All participants started their academic courses between Times 1 and 2, along with ATs run by postgraduate tutors and academic staff, and PDMs overseen by academic staff only. A more detailed description is presented in the next section.

The Times 1 and 2 surveys were made in the Qualtrics Panel and distributed using Experimental Management System (EMS). The students could choose to be rewarded by either receiving extra course credit or by participating in a lucky draw worth £20. Before beginning the survey, the students had to give their consent on a provided form. The students were debriefed and thanked for their participation on completion of the surveys.

5.2.4. Personal Development Meetings (PDMs)

The PDMs are a compulsory program held during years one, two, and the final year of undergraduate study in the School of Psychology, Cardiff University. This program has scheduled meetings that give students an opportunity to discuss their personal development with a personal tutor. PDMs are aimed at improving student understanding and mastery of skills that would have a positive influence on their performance at university, and perhaps beyond. The focus of this program was on learning, evaluation, and communication skills.

A total of 14 meetings are scheduled for each student; six meetings during year one, four meetings during year two, and four during the final year. However, since this study only focused on years one and two, a detailed explanation of the final year will not be included. Briefly, year one students have six meetings that start with the topic, 'Welcome to University,' followed by, 'Communicate Clearly,' 'Test Yourself,' 'Wiseguys Summarise,' 'How Feedback can Feed Forward,' and lastly, 'Desirable Difficulties.'

'Welcome to University' is the first meeting during enrolment week and focuses on learning skills. Students discuss their learning strategies with their personal tutor. 'Communicate Clearly' takes place during week five. Students are required to identify the characteristics of clear communication. During week 11, 'Test Yourself' focuses on evaluation skills. Students are required to identify revision skills that might be effective for exams and beyond. During the first week of the spring semester, 'Wiseguys Summaries' ask students to identify and communicate the key points of assigned source material, with a focus on communication skills. The next meeting of the spring semester, held during week five, is 'How Feedback can Feed Forward.' It requires students to identify and share the feedback and experience gained in the previous semester (Level 4), that might help in the upcoming semester (Level 5). The last meeting, 'Desirable Difficulties' is held during week 11. During this meeting, students are required to identify study strategies that may involve some challenges but might also result in better long-term learning. This meeting focuses on learning skills that would be beneficial to the students.

For year two, the program begins with, 'Read Without Writing, Write Without Reading.' This is then followed by, 'Feedback from Staff to Students,' then, 'Feedback from Students to Staff,' and ends with, 'Self-Regulated Learning.'

‘Read Without Writing, Write Without Reading’ is held during the first week of the autumn semester, where the integration of communication, evaluation, and learning skills takes place. Students are asked to evaluate and review what they had learned in PDMs about communication, evaluation, and learning skills during the previous year and if they expect a greater challenge in the second year. This meeting is aimed at developing new habits for reading and writing. ‘Feedback from Staff to Students’ occurred during week 11 and focused on evaluation skills. Students were required to engage with the feedback and use the feedback as guidelines for learning and performance in upcoming exams. The next meeting, ‘Feedback from Students to Staff’, takes place during the first week of the spring semester, where students are given seven principles on how to practice good feedback. The students are then asked to evaluate the feedback practices within the School of Psychology. The focus of this meeting is on evaluation skills. Finally, the last meeting during the second year, ‘Self-Regulated Learning’, is held during week 11. That meeting’s focus is on learning skills. The students are required to monitor their learning strategies and choose which strategies were the most effective for them. A more detail description can be found in the Year One and Year Two Handbook.

5.2.5. Academic Tutorials (ATs)

ATs for year one are run by postgraduate (PG) students and aim to help undergraduate students develop and improve their skills in writing practical reports. These AT are compulsory; all year one students are required to attend all tutorials. There are six tutorials each semester. During semester one, PG tutors are equipped with various techniques to help undergraduate students develop their practical report writing skills. The tutorials began in week two and are held every two weeks. They cover a basic

introduction to the tutorials and report writing, followed by tutorials based on statistics homework, along with activities on writing a good report.

The ATs in semester two are focused primarily on writing a complete practical report. Students are required to participate in group discussions with their PG tutor on issues, such as the rationale of the study, methods, findings, interpretation, and discussion. These activities are intended to assist students in clarifying their thinking and becoming more aware of a wider range of related practical issues. Students are given an opportunity to discuss any difficulties and/or challenges with their PG tutor. The evaluation of their reports emphasised strategies for improving writing skills.

Members of the academic staff aim to develop students' critical and analytical skills and run tutorials for year two students. These tutorials are also compulsory and students are encouraged to do independent reading of journal articles and reflect upon them during the tutorial. In addition, students are required to perform presentations in front of the group for discussion. This activity is an important method to enhance their oral presentation skills. Moreover, during these tutorials, the development of essay writing skills takes place. Students are required to complete coursework essays and critical reviews of their assignments that reflect evidence of independent reading, critical thinking, and analysis. A more detailed description can be found in the Year One and Year Two Handbook.

5.2.6. Measurements

5.2.6.1. Psychosocial characteristics and well-being

For seven psychosocial characteristics (positive and negative coping, positive and negative work characteristics, positive personality, OCB, commitment) and well-being variables, the same measurements were used as in Study 1 (Chapter 3),

comprising the short Smith Wellbeing scale (Short-SWELL; Smith & Smith, 2017). Chapter 3, section 3.2.4.2 (page 107) provides a detailed description of this measurement. As mentioned earlier, some items were asked at Time 1 and Time 2 during data collection.

As the introduction of this chapter mentioned, two new psychosocial characteristics were added to expand the research: effort regulation and stress exposure. This addition was made because past literature has found that both significantly influence a student's academic achievement. Therefore, it is worth including these constructs when examining all the associations in the context of university students.

For the effort regulation construct, which was asked at Time 2, the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, 1991) was used to examine the students' self-management, reflecting their commitment to completing their study goals, even when they faced difficulties and distractions. It had four items, the example being, 'I work hard to do well in this course, even if I don't like what we are doing'. The response scale ranged from 'strongly disagree' (1) to 'strongly agree' (10).

Stress exposure was then assessed using the short version of the Inventory of College Students' Recent Life Experiences by Williams et al. (2017). The participants were asked to consider various elements of student stressors and indicate to what extent they had been part of their lives, overall, during the past six months. The example was, 'Time pressures (e.g. too many things to do at once, interruptions to your work, a lot of responsibilities)'. The response scale ranged from 'not at all' (1) to 'very much so' (10).

5.2.6.2. Training attitudes

Training attitudes consisted of motivation to learn, learning, transfer intention and cognitive dissonance. For these variables, the same measurements were used as in Studies 1 and 2 (Chapters 3 and 4, respectively). A detailed description can be found in Chapter 3, section 3.2.4.3 (page 108). For this study, all training variables were administered at Time 2, in contrast to the previous study, particularly Chapter 4, where motivation to learn was asked at Time 1. By asking this construct at Time 2, allowing the same response rate to be obtained as for the other training attitude variables, motivation to learn could be grouped and analysed simultaneously with other training attitudes variables.

In addition to the original training attitudes, a new construct was added to expand the research: effort regulation in the context of PDMs and ATs. The variable was assessed using the MSLQ (Pintrich, 1991). While the same items were used as for the psychosocial characteristics, slight changes were made to align this tool with the context of the PDMs and ATs. The example used was, 'I work hard to do well in the PDMs/ATs, even if I don't like what we are doing'. All of the training attitudes had the same response scale, which ranged from 'strongly disagree' (1) to 'strongly agree' (10).

5.2.6.3. Reaction towards the programmes

In order to evaluate the programmes, one item each was developed to measure the overall student reactions to the PDMs and ATs. The response scales ranged from 'not interesting' (1) to 'very interesting' (10). In addition, another item each was developed to assess the usefulness of the content of the PDMs and ATs with respect to student academic performance. The response scale ranged from 'not useful' (1) to 'very useful' (10). Two further items each were developed to measure student perceptions

of tutor engagement and teaching effectiveness in both contexts. For example, ‘My tutor is engaged with the aims of the PDMs/ATs’. Lastly, four items from Kirkpatrick (2008) were used to assess the tutor knowledge and delivery in both contexts. For example, ‘My personal tutor effectively delivered the PDMs material,’ and, ‘My tutors demonstrated a good understanding of the ATs material’. The response scale ranged from, ‘Strongly disagree’ (1) to ‘Strongly agree’ (10).

5.2.6.4. Academic attainment

For academic attainment, the students’ academic scores for various subjects from the final-term examination were obtained from the school. The marks were from the first-year subjects: Introduction to Psychology, Research Methods in Psychology and Psychological Research. The three subjects from the second year were Social Psychology 2, Developmental Psychology and Psychological Research Skills.

5.2.7. Data analyses

All data were analysed using IBM Statistics SPSS 20 and included both descriptive and inferential analyses, comprising a t-test, correlation and multiple regression. The use of correlation analysis was necessary to investigate the relationships among psychosocial characteristics, training attitudes, well-being and academic attainment. Meanwhile, multiple regression analysis was important for examining the influence of psychosocial characteristics on training attitudes, well-being and academic attainment. In addition, hierarchical multiple regression analysis was employed to investigate the impact of training attitudes on well-being and academic attainment, and control for the other variables.

5.3. Results

The aims of this study were to: 1) investigate the influence of psychosocial characteristics on training attitudes and reactions in the context of PDMs and ATs; and 2) examine the impact of training attitudes and reactions in both contexts on well-being and academic attainment, after controlling for other variables (psychosocial characteristics). The research findings are presented in two parts; first was the descriptive analysis, and second the inferential analysis.

5.3.1. Descriptive analysis

This section presents a descriptive analysis of each variable. The means and standard deviations, along with minimum and maximum values, are presented for the psychosocial characteristics at Times 1 and 2, the training attitudes and reaction towards the programmes, well-being at baseline and follow-up, and academic performance.

Table 5.3

Descriptive statistics of psychosocial characteristics, training attitudes, well-being and academic attainment

Variables	N	Mean	Standard Deviation	Min.	Max.
Time 1					
Positive coping	380	6.68	2.025	1	10
Negative coping	380	5.27	2.245	1	10
Positive personality	380	6.44	2.060	1	10
Positive well-being	380	6.69	1.999	1	10
Negative well-being	380	4.76	2.339	1	10
Time 2					
Negative work characteristics	274	5.80	2.096	1	10
Positive work characteristics	274	6.96	1.635	1	10
OCB	273	6.44	1.761	1	10

Commitment	274	7.86	1.682	2	10
Effort regulation	274	22.41	2.808	12	31
Stress exposure	271	33.81	10.115	10	62
PDMs					
Motivation to learn	272	20.64	8.307	4	40
Learning	269	17.13	6.294	3	30
Transfer intention	270	10.00	4.357	2	20
Cognitive dissonance	272	7.77	3.477	2	20
Effort regulation	270	20.45	3.720	4	30
Reaction towards the programmes	274	52.08	15.718	8	80
ATs					
Motivation to learn	272	27.58	6.986	4	40
Learning	267	21.70	5.686	3	30
Transfer intention	270	12.83	3.823	2	20
Cognitive dissonance	273	7.62	3.729	2	20
Effort regulation	270	21.84	3.489	9	35
Reaction towards the programmes	274	61.07	13.269	8	80
Outcome					
Positive well-being	274	6.85	2.135	1	10
Negative well-being	274	5.15	2.568	1	10
Academic attainment	267	63.93	9.750	20	84

At Time 1, the participants mostly had moderately positive personality, employed moderately positive and negative coping, and had moderate positive and negative well-being (see Table 5.3, which presents the means and standard deviations of all variables in each phase of the data collection).

Moving on to Time 2, those students who participated in all phases of the data collection were moderate in both positive and negative work characteristics, OCB and stress exposure. They were slightly higher in commitment and effort regulation. Regarding training variables in the context of PDMs, most of them had moderate

motivation to learn, learning, and transfer intention, and slightly higher effort regulation and reaction. Meanwhile, they experienced less than moderate cognitive dissonance. With regard to the ATs, they had quite high motivation to learn, learning, effort regulation and reactions, and they had moderate transfer intention and slightly less than moderate cognitive dissonance. Lastly, they had moderately positive and negative well-being at the beginning of the second semester, and moderate academic attainment.

5.3.2. Inferential analysis

For the inferential analysis, which determined whether the hypotheses were accepted or rejected, correlation analysis is presented first, followed by both multiple and hierarchical regression. Before conducting the main analyses, factor analysis was performed for all training attitudes in both contexts (PDMs and ATs) to reduce the variables to manageable units. The training attitudes consisted of motivation to learn, learning, transfer intention, cognitive dissonance and effort regulation. An extraction method of principal component analysis and a varimax rotation with Kaiser normalisation were used. Table 6 presents the results of the factor analysis.

Table 5.4

Factor loading scores, initial eigenvalues, and percentage of variance explained for factors derived from training attitudes variables.

Variable/items	**Factor loading**	**Initial eigenvalue**	**Cumulative % variance**
Training attitudes of PDMs			
Component 1: Positive training attitudes	.859	7.26	48.42%
Transfer intention 1	.858		
Motivation to learn 4	.832		
Learning 3	.825		

Motivation to learn 1	.818		
Learning 2	.817		
Motivation to learn 2	.803		
Transfer intention 2	.784		
Motivation to learn 3	.774		
Learning 1	.614		
Effort regulation 2	.583		
Effort regulation 4			
Component 2: Negative training attitudes	.685		
Cognitive dissonance 1	.649		
Effort regulation 3	.624		
Cognitive dissonance 2	.579		
Effort regulation 1			
Training attitudes of Tutorials			
Component 1: Positive training attitudes	.886	7.12	47.45%
Motivation to learn 4	.886		
Learning 3	.841		
Motivation to learn 1	.806		
Transfer intention 1	.797		
Learning 2	.795		
Learning 1	.782		
Motivation to learn 2	.727		
Transfer intention 2	.652		
Effort regulation 2	.648		
Motivation to learn 3	.586		
Effort regulation 4			
Component 2: Negative training attitudes	.714		
Effort regulation 3	.655		
Effort regulation 1	.546		
Cognitive dissonance 1	.433		

Cognitive dissonance 2

Table 5.4 shows that two factors from each context (PDMs and ATs) were formed from variables that related to attitudes towards training, namely, positive and negative training attitudes. Positive training attitudes, in both contexts, consist of motivation to learn, learning, transfer intention and positive items of effort regulation, while negative training attitudes comprise cognitive dissonance and negative items of effort regulation.

5.3.2.1. Hypothesis 1: Psychosocial characteristics influence training attitudes and reaction in both the PDMs and ATs

The first objective of this study was to determine the predictors of training attitudes and reaction towards the programmes in the context of PDMs and ATs. Two types of analyses were performed to investigate the influence of psychosocial characteristics at Times 1 and 2 on positive and negative training attitudes in the context of PDMs and ATs, and the reactions towards both programmes. First, a correlation analysis was conducted, followed by regression analyses to examine the association between independent and dependent variables.

Table 5.5 indicates that only positive coping had a significant negative correlation with negative training attitudes in the context of PDMs ($r(260) = -.12$, $p < .05$). Meanwhile, none of the psychosocial characteristics at Time 1 significantly correlated with the other training variables. With regard to the relationship between psychosocial characteristics at Time 2 and the training variables, Table 5.7 shows that positive and negative work characteristics had a significant relationship with all training variables (greater than, or equal to, $r(272) = .15$, $p < .05$), while OCB significantly correlated with negative training attitudes and reactions in the context of

PDMs, and positive training attitudes and reaction in the context of ATs (greater than, or equal to, $r(272) = .13$, $p < .05$). Also, commitment had a significant relationship with negative training attitudes in the context of PDMs, and all training variables in the context of ATs (greater than, or equal to, $r(272) = .20$, $p < .01$).

Table 5.5

Correlation analysis between psychosocial characteristics and training variables

Variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**	**(13)**	**(14)**
PC (T1) (1)	1													
NC (T1) (2)	-.637**	1												
PP (T1) (3)	.598**	-.439**	1											
PWC (T2) (4)	.195**	-.084	.089	1										
NWC (T2) (5)	.021	.041	.038	-.195**	1									
OCB (T2) (6)	.170**	-.152*	.141*	.247**	.036	1								
CM (T2) (7)	.146*	-.128*	.109	.369**	-.071	.398**	1							
ER (T2) (8)	.005	.057	-.044	-.018	.299**	.032	.024	1						
SE (T2) (9)	-.165**	.179**	-.201**	-.239**	.358**	-.045	-.194**	.291**	1					
PTA (PDM) (10)	.055	-.007	.030	.215**	-.152*	.071	.051	-.040	-.129*	1				
NTA (PDM) (11)	-.121*	.036	-.075	-.197**	.203**	-.135*	-.267**	.129*	.311**	.000	1			
RT (PDM) (12)	.102	-.110	.079	.326**	-.175**	.135*	.095	-.112	-.206**	.588**	-.159*	1		
PTA (AT) (13)	.047	-.023	.023	.341**	-.185**	.169**	.337**	.046	-.019	.429**	-.084	.283**	1	
NTA (AT) (14)	-.074	.084	-.025	-.164**	.222**	-.118	-.203**	.122	.322**	-.041	.618**	-.137*	.000	1
RT (AT) (15)	.024	.009	.036	.316**	-.198**	.156**	.225**	-.037	-.133*	.219**	-.192**	.432**	.638**	-.233**

*PC = Positive coping, NC = Negative coping, PP = Positive personality, PWC = Positive work characteristics, NWC = Negative work characteristics, OCB = Organisational citizenship behavior, CM = Commitment, ER = Effort regulation, SE = Stress exposure, PTA = Positive training attitudes, NTA = Negative training attitudes, RT = Reaction, PDM = Personal development meetings, AT = Academic tutorials. ** p > .001, * p > .05.*

The analysis also indicated that effort regulation significantly correlated with negative training attitudes in the context of PDMs only ($r(260) = .13$, $p < .05$). Lastly, stress exposure had a significant relationship with all training variables in both contexts, except for positive training attitudes in the ATs context (all of the relationships were greater than, or equal to, $r(272) = .13$, $p < .05$).

Next, a hierarchical multiple regression was conducted to determine which psychosocial characteristics influenced training attitudes and reactions in both contexts. Three psychosocial characteristics (positive and negative coping, and positive personality) at Time 1 were included in block 1, and six psychosocial characteristics at Time 2 were included in block 2, with six training variables (positive and negative training attitudes, and reactions in both contexts) as the outcomes.

The regression analysis results illustrated in Table 5.6 revealed that, when positive training attitudes in the context of PDMs is the dependent variable, Model I, with Time 1 psychosocial characteristics (positive and negative coping and positive personality) as the predictors, explained 0.4% of the variance and was not significant ($F(3, 256) = .357$, $p > .784$). Model II, in which six psychosocial characteristics, recorded at Time 2 (positive and negative work characteristics, OCB, commitment, effort regulation and stress exposure) were added, explained significantly more variance (R^2 change = .064, $F(6, 250) = 2.856$, $p < .010$). The model explained 6.8% of the variance in positive training attitudes in the context of PDMs ($F(9, 250) = 2.028$, $p < .037$). The only significant predictor in Model II was positive work characteristics.

Table 5.6

The predictors of training attitudes in the context of PDMs

Dependent variable	**Positive training attitudes (PDMs)**						**Negative training attitudes (PDMs)**					
Independent variable	**Model I**			**Model II**			**Model I**			**Model II**		
Step 1 (Time 1)	**β**	**t**	**p**	**β**	**t**	**p**	**β**	**t**	**p**	**β**	**t**	**p**
Positive coping	.089	.985	.326	.040	.448	.654	-.146	-1.635	.103	-.130	-1.527	.128
Negative coping	.027	.330	.742	.028	.355	.723	-.074	-.929	.354	-.133	-1.759	.080
Positive personality	-.025	-.320	.749	-.022	-.288	.774	-.025	-.318	.751	.014	.190	.849
Step 2 (Time 2)												
Negative work characteristics				-.087	-1.286	.200				.112	1.746	.082
Positive work characteristics				.206	2.985	.003				-.033	-.502	.616
OCB				.024	.353	.725				-.045	-.696	.487
Commitment				-.037	-.525	.600				-.186	-2.772	.006
Effort regulation				.002	.035	.972				.053	.865	.388
Stress exposure				-.062	-.875	.382				.217	3.260	.001
R^2		.004			.068			.017			.169	
ΔR^2		.004			.064			.017			.153	
F change		.357			2.856			1.437			7.650	
Sig. F change		.784			.010			.233			.000	

With regard to negative training attitudes in the context of PDMs as the dependent variable, Model I, with Time 1 psychosocial characteristics as the predictors, explained 1.7% of the variance and was not significant ($F(3, 256) = 1.437$, $p > .233$). Model II, in which six psychosocial characteristics that were recorded at Time 2 were added, explained significantly more variance (R^2 change = .153, $F(6, 250) = 7.650$, $p < .000$). The model explained 16.9% of the variance in negative training attitudes in the context of PDMs ($F(9, 250) = 5.654$, $p < .000$). The only significant predictors in Model II were commitment and stress exposure.

Next, it can be seen from Table 5.7 that, when positive training attitude in the context of ATs was the dependent variable, Model I, with three psychosocial characteristics at Time 1 as the predictors, explained 0.2% of the variance and was not significant ($F(3, 252) = .192$, $p > .903$). Model II, in which the rest of the psychosocial characteristics at Time 2 were added, explained significantly more variance (R^2 change = .208, $F(6, 246) = 10.803$, $p < .000$). The model explained 21.0% of the variance in negative training attitudes in the context of ATs ($F(9, 246) = 7.280$, $p < .000$). The significant predictors in Model II were positive and negative work characteristics, commitment and stress exposure.

Furthermore, when negative training attitudes in the context of ATs was the dependent variable, Model I, with psychosocial characteristics at Time 1 as the predictors, explained 0.7% of the variance and was not significant ($F(3, 252) = .561$, $p > .641$). Model II, in which six psychosocial characteristics at Time 2 were added, explained significantly more variance (R^2 change = .135, $F(6, 246) = 6.476$, $p < .000$). The model explained 14.2% of the variance in negative training attitudes in the context of ATs ($F(9, 246) = 4.529$, $p < .000$). The only significant predictor in Model II was stress exposure.

Table 5.7

The predictors of training attitudes in the context of ATs

Dependent variable	**Positive training attitudes (ATs)**						**Negative training attitudes (ATs)**					
Independent variable	**Model I**			**Model II**			**Model I**			**Model II**		
Step 1 (Time 1)	**β**	**t**	**p**	**β**	**t**	**p**	**β**	**t**	**p**	**β**	**t**	**p**
Positive personality	-.016	-.207	.836	.025	.351	.726	.020	.252	.802	.061	.802	.423
Positive coping	.055	.599	.549	-.042	-.495	.621	-.040	-.439	.661	-.030	-.335	.738
Negative coping	.000	-.003	.997	-.003	-.044	.965	.060	.724	.470	-.001	-.018	.986
Step 2 (Time 2)												
Negative work characteristics				-.176	-2.747	.006				.121	1.821	.070
Positive work characteristics				.256	3.947	.000				-.014	-.206	.837
OCB				.005	.073	.942				-.070	-1.059	.290
Commitment				.261	3.965	.000				-.100	-1.462	.145
Effort regulation				.063	1.033	.303				.024	.371	.711
Stress exposure				.146	2.220	.027				.250	3.652	.000
R^2		.002			.210			.007			.142	
ΔR^2		.002			.208			.007			.135	
F change		.190			10.803			.561			6.476	
Sig. F change		.903			.000			.641			.000	

Regarding reaction towards the PDMs programme as the dependent variable (Table 5.8), Model I, with Time 1 psychosocial characteristics as the predictors, explained 1.5% of the variance and was not significant ($F(3, 266) = 1.361$, $p > .255$). Model II, in which six psychosocial characteristics at Time 2 were added, explained significantly more variance (R^2 change = .127, $F(6, 260) = 6.392$, $p < .000$). The model explained 14.2% of the variances in reaction to the PDMs programme ($F(9, 260) = 4.770$, $p < .000$). The only significant predictor in Model II was positive work characteristics.

Lastly, with reaction towards the ATs programme as the dependent variable, Model I, with Time 1 psychosocial characteristics as the predictors, explained 0.3% of the variance and was not significant ($F(3, 266) = .227$, $p > .877$). Model II, in which six psychosocial characteristics at Time 2 were added, explained significantly more variance (R^2 change = .137, $F(6, 260) = 6.914$, $p < .000$). The model explained 14.0% of the variance in reaction towards the ATs programme ($F(9, 260) = 4.695$, $p < .000$). The significant predictors in Model II were positive and negative work characteristics.

Table 5.8

The predictors of reaction towards the programmes

Dependent variable	**Reaction (PDMs)**						**Reaction (ATs)**					
Independent variable	**Model I**			**Model II**			**Model I**			**Model II**		
Step 1 (Time 1)	**β**	**t**	**p**	**β**	**t**	**p**	**β**	**t**	**p**	**β**	**t**	**p**
Positive personality	.011	.146	.884	.009	.116	.908	.042	.548	.584	.053	.724	.470
Positive coping	.044	.490	.624	-.025	-.290	.772	.025	.278	.782	-.046	-.535	.593
Negative coping	-.084	-1.055	.293	-.078	-1.023	.307	.045	.565	.572	.058	.758	.449
Step 2 (Time 2)												
Negative work characteristics				-.073	-1.133	.258				-.154	-2.383	.018
Positive work characteristics				.289	4.445	.000				.233	3.568	.000
OCB				.080	1.249	.213				.074	1.156	.249
Commitment				-.074	-1.111	.268				.100	1.503	.134
Effort regulation				-.051	-.824	.411				.012	.190	.850
Stress exposure				-.094	-1.415	.158				-.009	-.141	.888
R^2		.015			.142			.003			.140	
ΔR^2		.015			.127			.003			.137	
F change		1.361			6.392			.227			6.914	
Sig. F change		.255			.000			.877			.000	

5.3.2.2. Hypothesis 2: Training attitudes to PDMs and ATs and reaction towards the programmes influence well-being and academic attainment after controlling for psychosocial characteristics

Moving on to the next aim, which was to investigate the predictors of positive and negative well-being and academic performance among students, a correlation analysis was conducted first, followed by hierarchical regression.

Table 5.9

Correlation analysis between psychosocial characteristics and training variables on well-being and academic attainment

Variable	**Positive well-being (T2)**	**Negative well-being (T2)**	**Academic attainment**
Positive coping **(T1)**	.529**	-.237**	-.017
Negative coping **(T1)**	-.423**	.158**	.010
Positive personality **(T1)**	.564**	-.272**	-.055
Positive work characteristics **(T2)**	.222**	-.171**	.082
Negative work characteristics **(T2)**	-.100	.108	-.027
OCB **(T2)**	.197**	-.057	.241**
Commitment **(T2)**	.285**	-.080	.202**
Effort regulation **(T2)**	-.041	.055	.070
Stress exposure **(T2)**	-.336**	.278**	-.049
Positive training attitudes **(PDMs)**	.149*	-.014	-.084
Negative training attitudes **(PDMs)**	-.222**	.264**	-.121
Reaction **(PDMs)**	.116	-.051	-.027
Positive training attitudes **(ATs)**	.125*	.044	.134*
Negative training attitudes **(ATs)**	-.172**	.211**	-.050
Reaction **(ATs)**	.098	-.029	.099

As shown in Table 5.9, the correlation analysis revealed that all psychosocial characteristics at Time 1 significantly correlated with positive and negative well-being

at Time 2 (greater than, or equal to, $r(272) = .16$, $p < .01$). In contrast, none of the Time 1 psychosocial aspects had a significant relationship with academic performance. Meanwhile, for psychosocial characteristics at Time 2, the results indicated that positive work characteristics, OCB and commitment positively correlated with positive well-being (greater than, or equal to, $r(272) = .20$, $p < .01$), and stress exposure negatively correlated with positive well-being (equal to $r(272) = -.34$, $p < .01$).

In addition, only positive work characteristics and stress exposure had a significant relationship with negative well-being at Time 2 (greater than, or equal to, $r(272) = .17$, $p < .01$). Regarding the relationship between training variables and well-being, it was shown that positive training attitudes in both contexts had a positive correlation with positive well-being, while negative training attitudes in both contexts had a negative relationship with positive well-being (greater than, or equal to, $r(272) = .13$, $p < .05$). For negative well-being, only negative training attitudes, in the context of PDMs and ATs, significantly correlated with negative well-being (greater than, or equal to, $r(272) = .21$, $p < .01$). Lastly, it was revealed that OCB, commitment and positive training attitudes in the context of ATs had a significant relationship with academic performance (greater than, or equal to, $r(272) = .13$, $p < .05$).

Next, a hierarchical regression was performed to examine the influence of training variables in both contexts on well-being and academic performance, after controlling for psychosocial characteristics. Three psychosocial characteristics at Time 1 were included in block 1, while six psychosocial characteristics at Time 2 were included in block 2. Positive and negative training attitudes in the context of PDMs and ATs, along with reaction towards both programmes, were included in block 3. Positive and negative well-being, and academic attainment were the outcomes.

The regression analysis (Table 5.10) revealed that, when positive well-being is the dependent variable, Model I, with Time 1 psychosocial characteristics (positive and negative coping and positive personality) as the predictors, significantly explained 40.8% of the variance ($F(3, 245) = 56.396$, $p < .000$). Model II, in which six psychosocial characteristics that were recorded at Time 2 (positive and negative work characteristics, OCB, commitment, effort regulation and stress exposure) were added, explained significantly more variance (R^2 change = .078, $F(6, 239) = 6.093$, $p < .000$). The model significantly explained 48.7% of the variance in positive well-being ($F(9, 239) = 25.205$, $p < .000$). Model III, in which six training variables were added, explained a slight increase in variance, but this increase was not significant (R^2 change = .019, $F(6, 233) = 1.496$, $p > .180$). Model III explained 50.6% of the variance in positive well-being ($F(15, 233) = 15.910$, $p < .000$). The significant predictors in Model III were positive personality, positive coping, commitment, stress exposure and positive training attitudes in the context of PDMs.

Table 5.10

The predictors of positive well-being

Dependent variable	**Positive well-being**								
Independent variable	**Model I**			**Model II**			**Model III**		
Step 1 (Time 1)	β	t	p	β	t	p	β	t	p
Positive personality	.409	6.642	.000	.380	6.429	.000	.384	6.525	.000
Positive coping	.217	3.038	.003	.195	2.824	.005	.179	2.603	.010
Negative coping	-.117	-1.836	.068	-.075	-1.234	.219	-.093	-1.508	.133
Step 2 (Time 2)									
Negative work characteristics				-.064	-1.231	.220	-.056	-1.063	.289
Positive work characteristics				-.003	-.062	.950	-.008	-.143	.886
OCB				.052	.995	.321	.054	1.034	.302
Commitment				.160	2.945	.004	.159	2.734	.007
Effort regulation				.047	.937	.350	.045	.898	.370
Stress exposure				-.167	-3.085	.002	-.147	-2.609	.010
Step 3 (Training variables)									

Positive training attitudes (PDMs)			.165	2.494	.013
Negative training attitudes (PDMs)			-.059	-.969	.334
Reaction (PDMs)			-.092	-1.354	.177
Positive training attitudes (ATs)			-.023	-.306	.760
Negative training attitudes (ATs)			-.014	-.218	.828
Reaction (ATs)			-.026	-.349	.727
R^2	.408	.487		.506	
ΔR^2	.408	.078		.019	
F change	56.396	6.093		1.496	
Sig. F change	.000	.000		.180	

With regard to negative well-being as the dependent variable, Table 5.11 shows that Model I, with three psychosocial characteristics at Time 1 as the predictors, significantly explained 8.7% of the variance ($F(3, 245) = 7.825$, $p < .000$). Model II, in which six psychosocial characteristics at Time 2 were added, explained significantly more variance (R^2 change = .056, $F(6, 239) = 2.587$, $p < .000$). The model significantly explained 14.3% of the variance in negative well-being ($F(9, 239) = 4.435$, $p < .000$). Model III, in which six training variables were added, explained a slight increase in variance, but this increase was not significant (R^2 change = .043, $F(6, 233) = 2.057$, $p > .059$). Model III explained 18.6% of the variance in negative well-being ($F(15, 233) = 3.554$, $p < .000$). The significant predictors in Model III were positive personality, stress exposure and negative training attitudes in the context of PDMs.

Lastly, with academic attainment as the dependent variable (Table 5.12), Model I, with three psychosocial characteristics as the predictors at Time 1, explained 0.3% of the variance, but was not significant ($F(3, 240) = .220$, $p > .882$). Model II, in which six psychosocial characteristics at Time 2 were added, explained significantly more variance (R^2 change = .083, $F(6, 234) = 3.538$, $p < .002$). This model significantly explained 8.6% of the variance in academic attainment ($F(9, 234) = 2.436$, $p < .012$). Model III, in which six training variables were added, explained a slight increase of the variance, but this increase was not significant (R^2 change = .041, $F(6, 228) = 1.761$, $p > .108$). Model III significantly explained 12.6% of the variance in academic attainment ($F(15, 228) = 2.195$, $p < .007$). The only significant predictor in Model III was OCB.

Table 5.11

The predictors of negative well-being

Dependent variable	**Negative well-being**								
Independent variable	**Model I**			**Model II**			**Model III**		
Step 1 (Time 1)	β	t	p	β	t	p	β	t	p
Positive personality	-.230	-3.007	.003	-.197	-2.581	.010	-.204	-2.691	.008
Positive coping	-.110	-1.244	.215	-.093	-1.040	.299	-.065	-.740	.460
Negative coping	-.024	-.309	.758	-.056	-.714	.476	-.032	-.401	.689
Step 2 (Time 2)									
Negative work characteristics				.035	.526	.599	.031	.456	.649
Positive work characteristics				-.049	-.719	.473	-.074	-1.045	.297
OCB				-.031	-.453	.651	-.025	-.370	.712
Commitment				.013	.189	.850	.015	.207	.836
Effort regulation				-.039	-.609	.543	-.049	-.770	.442
Stress exposure				.221	3.168	.002	.159	2.199	.029
Step 3 (Training variables)									
Positive training attitudes (PDMs)							-.081	-.962	.337
Negative training attitudes (PDMs)							.172	2.198	.029

Reaction (PDMs)			.093	1.064	.288
Positive training attitudes (ATs)			.108	1.112	.267
Negative training attitudes (ATs)			.042	.524	.601
Reaction (ATs)			.010	.105	.916
R^2	.087	.143		.186	
ΔR^2	.087	.056		.043	
F change	7.825	2.587		2.057	
Sig. F change	.000	.019		.059	

Table 5.12

The predictors of academic attainment

Dependent variable	**Negative well-being**								
Independent variable	**Model I**			**Model II**			**Model III**		
Step 1 (Time 1)	β	t	p	β	t	p	β	t	p
Positive personality	-.059	-.730	.466	-.064	-.805	.422	-.073	-.917	.360
Positive coping	.001	.015	.988	-.029	-.308	.758	-.025	-.266	.790
Negative coping	-.026	-.310	.757	-.002	-.030	.976	-.012	-.147	.883
Step 2 (Time 2)									
Negative work characteristics				-.042	-.599	.550	-.026	-.365	.715
Positive work characteristics				-.041	-.579	.563	-.030	-.409	.683
OCB				.187	2.655	.008	.191	2.726	.007
Commitment				.158	2.153	.032	.096	1.223	.222
Effort regulation				.068	1.024	.307	.066	.991	.323
Stress exposure				-.018	-.248	.805	-.041	-.541	.589
Step 3 (Training variables)									
Positive training attitudes (PDMs)							-.164	-1.824	.069
Negative training attitudes (PDMs)							-.086	-1.027	.305

Reaction (PDMs)			-.039	-.423	.672
Positive training attitudes (ATs)			.140	1.366	.173
Negative training attitudes (ATs)			.058	.685	.494
Reaction (ATs)			.038	.386	.700
R^2	.003	.086		.126	
ΔR^2	.003	.083		.041	
F change	.220	3.538		1.761	
Sig. F change	.882	.002		.108	

5.4. Discussion

The study in this chapter was derived from previous studies, particularly those in Chapters 3 and 4, which investigated associations between psychosocial characteristics, training attitudes and well-being. However, these studies have some limitations in terms of the study design and context, which makes it hard to draw a firm conclusion as training attitudes to which training programmes, or modules (or courses), had a bigger effect on individuals' well-being.

Hence, for this particular study, the aims were to: 1) investigate the influence of psychosocial characteristics on training attitudes and reactions, in the context of PDMs and ATs; and (2) examine the impact of training attitudes and reaction in both contexts on well-being and academic attainment, after controlling for other variables (psychosocial characteristics).

For the first objective, which to investigate the association between psychosocial characteristics and training variables (training attitudes and reaction) in the context of PDMs and ATs, the regression analysis showed that positive work characteristics were significantly associated with positive training attitudes in the context of PDMs. The positive training attitudes included motivation to learn, learning, transfer intention and positive item of effort regulation. In addition, negative training attitudes (cognitive dissonance and negative item of effort regulation) in the context of PDMs could be influence by low commitment and high stress exposure.

Regarding the predictors of training attitudes in the context of ATs, the results indicate that negative work characteristics negatively associated with positive training attitudes, and positive work characteristics, commitment and stress exposure positively associated with positive training attitudes. AT-related negative training

attitudes were also positively associated with stress exposure. However, these various stressors also made students become more motivated to learn the AT content, understand it better, gave them the intention to implement their knowledge and skills, and become more hardworking in the ATs. These unexpected findings might be due to the importance of the content of the ATs, where the students perceived that the content was related to their academic achievement. Hence, regardless of all the various stressors they faced, they still wanted to learn and strived to do well in the ATs. Layton (2015) mentioned that the tutorial system was crucial in providing extra academic support to students, supplementary to lectures, providing an opportunity for them to engage more thoroughly with their coursework, hence increasing their academic success.

Furthermore, the results reveal that positive work characteristics, where students perceived that they had control over how to do things, received support from their classmates and teachers and received rewards, evaluated both programmes (PDMs and ATs) as interesting and useful, and said that the tutors were engaging. In contrast, students who perceived their coursework to be highly demanding, requiring a lot of effort, having little consultation on change, and encountering conflict and issues with classmates, evaluated the ATs as uninteresting and not useful, and felt that the tutors were not engaging.

Based on the second aim of the study, to determine the influence of training variables (training attitudes and reaction) in both contexts on student well-being and academic performance, after controlling for psychosocial characteristics, the findings demonstrate that, after controlling for established factors, positive training attitudes in the context of PDMs were significantly associated with positive well-being, while negative training attitudes in the PDMs context were significantly associated with

negative well-being. However, students' attitudes toward the ATs did not identify any impact on their level of well-being. Regarding academic attainment, after subtracting the influence of psychosocial characteristics, students' attitudes toward PDMs and ATs did not appear to have any impact.

The association between positive training attitudes and student levels of well-being in the context of PDMs marks the uniqueness and importance of programme content on student well-being. As stated above, the aims of the PDMs were to improve student understanding and mastery of skills that would positively influence their performance at university and perhaps beyond. PDMs not only focus on the mastery of knowledge related to the coursework, but also emphasise other skills, such as learning, evaluation and communication. All of these are both hard and soft skills to facilitate student survival and success at their own pace at university, thereby helping to increase their level of well-being.

Several studies examining the effect of programmes that focus on a student's personal development have revealed that these kinds of programmes bring significant benefit to students (Bachik & Kitzman, 2020: Fitzpatrick et al. 2013). Some advantages include a greater reduction in emotional and behavioural difficulties and an increase in help-seeking behaviour (Fitzpatrick et al. 2013), enhancing students' ability to effectively handle stresses in personal and professional life (Bachik & Kitzman, 2020). Meanwhile, Monks, Conway and Dhuigneain (2006) discovered that students in a personal development planning group experienced higher self-esteem, engaged more in class and exhibited an increase in self-awareness after the programme ended. Therefore, it was considered that a programme related to personal development as fundamental in mental health promotion, indirectly improving an individual's level of well-being.

Moving on, not only did positive and negative training attitudes positively associated with student levels of well-being in the context of PDMs, other factors, such as positive coping, positive personality, commitment and stress exposure were also significant predictors. The positive relationship between positive personality and well-being has been identified in prior research (Lui et al., 2016; Williams et al., 2017). It has been said that those who possess a positive personality – for example, people showing extraversion and conscientiousness – are more sociable and able to develop good social support networks among family and friends (Arshad & Rafique, 2016; Elliott & Gramling, 1990). These positive traits not only help them with better coping skills, but also lead them to experience a positive sense of well-being. In addition, the results herein on the relationship between coping and well-being are consistent with previous research (Drake, 2010; Mark & Smith, 2012; Meng & D'Arcy, 2016).

As suggested by Akhtar and Kroener-Herwig (2017), those who actively used avoidance coping mechanisms, characterised by ignoring situations, turning their attention to other issues or engaging in other activities for distraction (Billings & Moos, 1984), most likely make challenging situations worse, and eventually feel more stress and anxiety. On the other hand, Dewe, O'Driscoll, and Cooper (2010) explained that the direct effect of social support on strain and positive well-being might lie in the nature of the support provided by family and friends and the support desired by the individual. For example, support – technical, informational, advice or emotional – can help a person reduce strain, which eventually facilitates better well-being (Dewe et al., 2010).

In addition, the positive relationship between commitment and well-being in this study was consistent with the findings of Clausen, Christensen, and Nielsen (2015) and Vecina and Chacón (2013). Commitment may not only help in increasing an individual's level of psychological well-being (Vecina & Chacón, 2013), but may also help to reduce job-related anxiety (Glazer & Kruse, 2008). Glazer and Kruse (2008) suggested that this might be due to the effects of commitment, which provide a meaningful relationship with the organisation. Hence, when an individual's commitment is high, it helps them to accept the anxiety caused by work stressors. Meanwhile, Dalton and Hammen (2018) also found that various stressors faced by undergraduate students showed a moderate correlation with chronic and acute stress, along with depressive symptoms and maladaptive health behaviours. This might be due to the students feeling overwhelmed by various situations that need to be faced, leading to their decreased levels of positive well-being and increased negative well-being.

The present study found an unexpected result, where OCB, characterised in this study as a student who always helps other students, is courteous and a good sport, influenced academic attainment. The relationship between these two variables might be influenced by other factors; for example, a conscientious trait may be a mediating factor. Still, those who exhibit high OCB also demonstrate conscientiousness (Singh & Singh, 2009), and conscientiousness is a predictor in determining good academic performance (Di Domenico & Fournier, 2015; Richardson et al., 2012). However, this result requires further research in order to elucidate the relationship between these variables.

5.4.1. Implications, limitations and future directions

This study had a few implications that are worth highlighting. It is the first to have investigated the influence of five attitudes toward training (motivation to learn, learning, transfer intention, effort regulation and cognitive dissonance) on well-being. Previous studies have examined the influence of these attitudes on well-being separately, and in a broader context (e.g. education), for example, the impact of motivation to learn on well-being and academic performance, the effect of learning on well-being and academic performance, the influence of behavioural intention on well-being, and so on. Furthermore, for the purpose of this study, specific content in the training programmes was employed. PDMs and ATs were chosen as the training programmes, as these two programmes were running at the time of the study. However, the content of the programmes was different, so a clear distinction could be made. Hence, this study contributes to the new body of knowledge.

Similar to previous chapters, especially Chapter 3 (section 3.4.1, page 123), the findings add more information to the DRIVE model's (Mark & Smith, 2008) framework. Inserting training attitudes into the framework as independent variables has added valuable knowledge, making the model more comprehensive. Not only did the study find that personality, coping and commitment (among the key predictors in the model) positively influence an individual's level of well-being, thus contributing to the existing body of knowledge, but it also highlighted the link between training attitudes and well-being. Thus, the study results emphasise that positive or negative attitudes in the context of a specific training programme are directly associated with positive or negative well-being outcomes.

In addition, the significant contribution of positive training attitudes on students' levels of well-being in the context of PDMs showed that students who

viewed the content of the PDMs as useful, where they were motivated to learn the skills, had the intention to apply them and worked hard at the programme, seemed to produce a better level of well-being. This finding marks the special features of the PDMs, which may help students experience a higher degree of satisfaction, become happier, and maintain good spirits. The application of this type of programme in other schools, departments and universities is highly recommended.

Still, several important limitations need to be considered. First, although this study was longitudinal, it did not assess the same questions at Times 1 and 2, thus the causal effects could not be identified. For example, the attitudes towards training in both contexts were not asked at Time 1, but were assessed at Time 2. The longitudinal approach used in this study was due to the fact that almost half of the respondents were first-year students; hence, asking those students questions regarding their attitudes toward PDMs and ATs was not applicable to their experiences.

Second, because the nature of this study was very specific, involving specific training programmes, with a specific sample of respondents, generalisation to a larger sample cannot be made. This study used undergraduate psychology major students at Cardiff University as participants, and chose PDMs and ATs as the training programmes. Although ATs are widely used in the university, the PDM programme is implemented by the School of Psychology only.

5.5. Conclusions

In summary, this study found a crucial link between attitudes to training and well-being. It highlighted that attitudes to training in a certain type of programme or module can have a significant impact on students' levels of well-being. It was revealed that students who exhibited positive attitudes toward PDMs, which aimed at improving

student understanding and the mastery of skills that might be beneficial to the student in improving their performance at university, were more prone to experiencing positive well-being. Meanwhile, those who encountered cognitive inconsistency, in which they felt uncomfortable when they wanted to use the skills they had learned in the PDMs, had a high probability of experiencing negative well-being. The associations between training attitudes and well-being in a PDMs context remained significant even when established predictors were controlled for. In contrast, both positive and negative training attitudes in the context of ATs did not have any impact on student levels of well-being. Other factors, such as positive coping, positive personality, commitment and stress exposure, were also significantly associated with students' levels of well-being, whereas academic performance could be influenced by OCB. Further research is required to confirm these findings and thoroughly investigate the links between the factors analysed, especially in the different context of specific training programmes and using different types of sample. Hence, in parallel with this chapter, the study in the next chapter replicates the research design, with slight modification, and focused on postgraduate students who participated in a doctoral academy programme (DAP).

Chapter 6:

Associations between Psychosocial Characteristics, Training Attitudes and Well-being in the Context of a Doctoral Academy Programme (Study 4)

6.1. Introduction

Similarly to Chapter 5, the study reported in this chapter is derived from previous studies, particularly those described in Chapters 3 and 4. Chapter 3 was the first empirical study, which attempted to bridge the gap between attitudes related to training and individuals' levels of well-being. Chapter 3 examined the level of training attitudes in the context of various training programmes, while Chapter 4 examined it in the context of educational setting (Chapter 4). Building upon results from these chapters, Chapter 5 further investigated the influence of training attitudes on well-being, by employing more specific programmes (i.e. PDMs and ATs) and it was revealed that attitudes towards specific programme content significantly influence one's levels of well-being.

The study presented in this chapter parallels that of Chapter 5, with the same research design and measurements being used, but with slight modifications. Chapter 5 focused on undergraduate students from the School of Psychology, Cardiff University who were involved in two types of programmes – PDMs and ATs. Meanwhile, the study in this chapter focuses on a comprehensive training programme for postgraduate researchers, aimed at developing their research and professional skills, termed the Doctoral Academy Programme (DAP).

In this study, participant attendance scores were also recorded, which determined how many training programmes or workshops they had attended. Postgraduate students have the freedom to choose what kind of workshops they want to attend. It is important to include this variable because it has been found that trainees who feel that they have a high degree of freedom to attend training report more favourable post-training reactions and higher achievement scores (Gegenfurtner, Könings, Kosmajac, & Gebhardt, 2016; Hicks & Klimoski, 1987), as well as increased motivation to learn (Baldwin, Magjuka, & Loher, 1991) and motivation to transfer the new knowledge and skills to the work setting (Curado, Henriques, & Ribeiro, 2015). Furthermore, in the studies reported in previous chapters, particularly Chapters 4 and 5, the training programmes or modules that the participants took part in were mandatory, and they were not given the freedom to choose whether or not to attend. Hence, the attendance scores and the lists of workshops that the participants took part in were recorded here.

The main aim of the study reported in this chapter was to examine the associations between psychosocial characteristics, training attitudes and well-being. Training attitudes in the present study are in the context of the DAP. Three hypotheses were developed:

H1: Training attitudes influence well-being;

H2: Psychosocial characteristics influence well-being; and

H3: Psychosocial characteristics influence training attitudes.

6.2. Methods

6.2.1. Research design

This research involved a quantitative and longitudinal study comprising two phases of data collection that involved enquiring about participant psychosocial characteristics, four training attitudes, reaction to the programmes, participant attendance scores in the DAP or workshops, and well-being among postgraduate students at Cardiff University.

6.2.2. Participants

A total of 128 postgraduate students participated in Time 1, which occurred at the beginning of Semester 1. However, only 80 postgraduate students participated in both Times 1 and 2, with Time 2 data collection being administered four months after Time 1 (Table 1). At Time 1, the majority of the 128 respondents were female (84, 65.6%), aged between 20 and 30 years (76, 59.4%), of White ethnicity (69, 53.9%), native speakers of English (77, 60.2%) and were in the second year of their postgraduate education (35, 27.3%). Among all of the participants that participated at both times, most of them were also female (56, 70%), aged 20–30 years (51, 63.8%), of White ethnicity (45, 56.3%), native speakers of English (50, 62.5%) and were in the second year of their postgraduate education (26, 32.5%) (Table 2).

Table 6.1

Numbers of participants in each phases of data collection

Phases of the data collection	**Total participants**
Time 1	128
Time 2 → participant that participate in both phases	80

Table 6.2

Demographic description of the sample

Demographic		**Time 1 (*n* = 128)**		**Time 1 and 2 (*n* = 80)**	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Gender	Male	43	33.6	23	28.8
	Female	84	65.6	56	70
Age	20 – 30 years old	76	59.4	51	63.8
	31 – 40 years old	32	25.0	20	25.0
	41 – 50 years old	12	9.4	6	7.5
	51 – 60 years old	5	3.9	2	2.5
Race/ Ethnicity	White (English/ Welsh/ Scottish/ Northern Irish/ British)	69	53.9	45	56.3
	White (Other)	27	21.1	15	18.8
	Asian/ Asian British	14	10.9	12	15.0
	Black African/ Caribbean/ Black British	2	1.6	2	2.5
	Mixed/ Multiple ethnic groups	4	3.1	2	2.5
	Other ethnic group	11	8.6	3	3.8
Native speaker	Yes	77	60.2	50	62.5
	No	50	39.1	30	30

Academic year	Year 1	21	16.4	14	17.5
	Year 2	35	27.3	26	32.5
	Year 3	25	19.5	15	18.8
	Year 4	27	21.1	15	18.8
	Year 5	8	6.3	3	3.8
	Other	12	9.4	7	8.8

6.2.3. Procedure

Prior to conducting this research, ethical approval was obtained from the School of Psychology Ethics Committee, Cardiff University. For this study, two time-points (Times 1 and 2) of data collection were required.

The procedure for this study was the same as in the previous study, particularly Study 3 in Chapter 5. A detailed description can be found in section 5.2.3 (page XXX). In contrast to Study 3, which examined effort regulation in the specific context, the related items were not applicable in this study and so were not included.

Another change in this study involved asking participants at the end of the survey to send their DAP transcripts to the researcher. The transcripts provided information regarding the type of training programmes or workshops that the participants had attended over the years, along with the total attendance scores they received from all programmes and workshops. This information reflects the degree of freedom that the participants had to attend training programmes.

Both the Times 1 and 2 surveys were constructed using the Qualtrics Panel, and were advertised in several ways, such as via Facebook, a Yammer noticeboard and email. All participants were automatically entered into a lucky draw, in which five winners would receive Amazon vouchers worth £20 each. In addition, prior to

responding to the survey, the participants had to give their consent on a provided form. At the end of the survey, they were debriefed and thanked for their participation.

6.2.4. Doctoral Academy Programme

The Doctoral Academy offers a comprehensive programme for postgraduate researchers at Cardiff University to develop their research and professional skills. It includes various formal learning opportunities, community events, online learning, student-led conferences and funding for interdisciplinary activities. These opportunities and activities aim to broaden and enrich the postgraduate experience. The approach of the Doctoral Academy is student centred and needs based, with the objective being that postgraduate development plans are appropriate to students' needs, now and in the future, particularly with respect to their research projects.

The DAP workshops were divided into four primary domains – knowledge and intellectual abilities, personal effectiveness, research governance and organisation, and engagement, influence and impact. Not only that, but each domain had three components to it.

Domain A, which focused on development of the knowledge, intellectual abilities and techniques postgraduate research students require to carry out their research, had three components – knowledge base, cognitive base and creativity. Examples of the knowledge-based component included information seeking, languages, academic literacy and numeracy, as well as information literacy and management. Meanwhile, cognitive abilities included workshops related to analysing, synthesising, critical thinking, evaluating and problem solving. In addition, the creativity component in Domain A was more focused on workshops related to

inquiring minds, intellectual insight, innovation, argument construction and intellectual risk.

In Domain B (personal effectiveness), the emphasis was on the personal qualities and approach required to be an effective researcher. The three components in this domain were personal qualities, self-management and professional and career development. For personal qualities, all workshops aimed to increase postgraduate student enthusiasm, perseverance, integrity, self-confidence, self-reflection and responsibility. Meanwhile, the self-management component taught how to conduct preparation and prioritisation, how to be committed to the research, time management, how to be responsive to change and how to strike a balance between work and life. The third component in Domain B, which focused on professional and career development, included workshops related to networking, responsiveness to opportunities, career management, continuing professional development, and reputation and esteem.

Domain C emphasised knowledge regarding the standards, requirements and professionalism needed to perform the research, with the three components including professional conduct, research management and finance, and funding and resources. Professional conduct, in the first component, focused on topics such as health and safety, ethics, principles and sustainability, legal requirements and appropriate practices. The second component dealt with the research strategy, project planning and delivery, and risk management. In the last component, the workshops paid more attention to topics related to income and funding generation, financial management, and infrastructure and resources.

Finally, Domain D focused on the knowledge and skills required to work with others, and involves the wider impact of a research programme, consisting of three components – working with others, communication and dissemination, and engagement and impact. The focus of the workshops relating to working with others involved collegiality, teamwork, supervision, mentoring, collaboration, and equality and diversity. Meanwhile, the communication and dissemination components paid more attention to communication methods, communication media and publication. Lastly, the engagement and impact component educated the postgraduate students on teaching techniques, public engagement, enterprise, policy, society and culture, and global citizenship.

The postgraduate students could choose any of the workshops provided by the Doctoral Academy that aligned with their development and needs. Prior to attending a workshop, the students were required to book a place using the DAP booking system. Students were given points every time they attended and completed a workshop.

6.2.5. Measurements

6.2.5.1 Psychosocial characteristics and well-being

For seven psychosocial characteristics (positive and negative coping, positive and negative work characteristics, positive personality, OCB, commitment) and well-being variables, the same measurements were used as in Study 1 (Chapter 3), comprising the short Smith Wellbeing scale (Short-SWELL; Smith & Smith, 2017). A detailed description of this measurement can be found in Chapter 3, section 3.2.4.2 (page 107). As mentioned earlier, some items were asked at Time 1 and Time 2 during data collection.

For the effort regulation and stress exposure constructs, this study used the same measurements as in the previous study, particularly Study 3 in Chapter 5. A detailed description can be found in Chapter 5, section 5.2.6.1 (page 175).

6.2.5.2 Training attitudes

Training attitudes consisted of motivation to learn, learning, transfer intention and cognitive dissonance. For these variables, the same measurements were used as in Studies 1, 2 and 3 (Chapters 3 to 5). Chapter 3, section 3.2.4.3 (page 108) provides a detailed description of the measurement.

6.2.5.3 Reaction towards the programmes

The same items were used to measure students' reaction towards the programme as in the previous study, particularly Study 3 in Chapter 5. Section 5.2.6.3 (page 177) gives a detailed description of the items.

6.2.6. Data analysis

All data were analysed using IBM Statistics SPSS 20, including both descriptive and inference analyses comprising a t-test, and correlation and multiple regression. The use of correlation analysis was necessary for investigating the relationship between psychosocial characteristics, training attitudes and level of well-being. Meanwhile, hierarchical multiple regression analysis was employed for examining the influence of psychosocial characteristics on training attitudes, and to investigate the impact of both psychosocial characteristics and training attitudes on the individuals' level of well-being.

6.3. Results

This study had three objectives: (1) to examine the influence of training attitudes on well-being; (2) to investigate the impact of psychosocial characteristics on well-being; and (3) to examine the effect of psychosocial characteristics on training attitudes.

The research findings are presented in two parts. First is the descriptive analysis, and second is the inference analysis, which is presented in accordance with the research objectives.

6.3.1. Descriptive analysis

The descriptive analysis of each variable is presented in this section. The means and standard deviations, along with minimum and maximum values, are presented for the psychosocial characteristics at Times 1 and 2, with training attitudes, participant training attendance scores, and well-being at baseline and follow-up.

To summarise Table 6.3, which presents the means and standard deviations of all the variables in each phase of data collection, those who participated in Time 1 mostly had relatively high positive coping (M = 7.80, SD = 1.67) and moderate negative coping, positive personality, positive and negative well-being.

Table 6.3

Descriptive statistics of psychosocial characteristics, training attitudes, well-being and academic attainment

Variables	**N**	**Mean**	**Standard Deviation**	**Min.**	**Max.**
Time 1					
Positive coping	128	7.80	1.665	1	10
Negative coping	128	4.87	2.443	1	10
Positive personality	127	6.83	2.302	1	10
Positive well-being	128	6.95	2.216	1	10

Negative well-being	128	5.11	2.405	1	10
Time 2					
Negative work characteristics	80	5.55	2.397	1	10
Positive work characteristics	80	7.48	1.728	3	10
OCB Model student	79	7.25	2.003	2	10
Commitment	80	7.88	2.015	1	10
Effort regulation	80	28.85	6.728	11	40
Stress exposure	78	31.74	9.821	12	55
DAP					
Motivation to learn	80	30.28	7.502	4	40
Learning	79	21.67	5.471	3	30
Transfer intention	78	13.43	4.302	2	20
Cognitive dissonance	80	7.65	4.940	2	20
Reaction to the programs	77	62.09	10.332	24	80
Attendance scores	125	13.72	11.099	.00	54.50
Outcome					
Positive well-being	80	7.12	2.247	1	10
Negative well-being	80	4.96	2.683	1	10

For Time 2, it was revealed that participants who took part in Times 1 and 2 had moderate negative work characteristics (M = 5.55, SD = 2.40) and slightly high positive work characteristics, OCB, commitment and effort regulation. Meanwhile, the various stressors experienced by the students were at a moderate level (M = 31.74, SD = 9.82).

Regarding training variables, it was found that the participants had relatively high motivation to learn the content of the DAP (M = 30.28, SD = 7.50), perceived that they had learnt quite a lot (M = 21.67, SD = 5.47) and reacted positively to the programmes (M = 62.09, SD = 10.33). In addition, the participants showed a moderate transfer intention (M = 13.43, SD = 4.30) and relatively low cognitive dissonance (M

= 7.65, SD = 4.94). Most of the participants also attended the workshops moderately (M = 13.72, SD = 11.10).

The participants who took part in both surveys perceived themselves as having quite high positive well-being (M = 7.12, SD = 2.25) and moderate negative well-being (M = 4.96, SD = 2.68).

6.3.2. Inferential analysis

Before conducting the analyses to provide support for the influence of training attitudes on well-being (Objective 1), a factor analysis was performed for all four attitudes to training (motivation to learn, learning, transfer intention and cognitive dissonance) and reactions towards the programme. The factor analysis was required due to the fact that the sample size in the present study was relatively small, with only 80 participants completing both phases of data collection. Hence, to reduce the variables to a manageable unit so that multiple regressions could be performed, a factor analysis was undertaken. An extraction method of principal component analysis and a varimax rotation with Kaiser normalisation were used. Table 6 presents the results of the factor analysis.

Table 6.4

Factor loading scores, initial eigenvalues, and percentage of variance explained for factors derived from training attitudes variables

Variable/items	**Factor loading**	**Initial eigenvalue**	**Cumulative % variance**
Training attitudes of DAP			
Component 1: Positive training attitudes			
Learning 3	.833	9.11	47.92%
Reaction 4	.826		
Reaction 5	.819		
Reaction 2	.788		
Reaction 1	.787		
Reaction 8	.785		
Motivation to learn 4	.777		
Reaction 3	.727		
Transfer intention 1	.710		
Reaction 6	.703		
Reaction 7	.692		
Motivation to learn 3	.681		
Motivation to learn 1	.680		
Motivation to learn 2	.663		
Transfer intention 2	.631		
Learning 2	.628		
Learning 1	.610		
Component 2: Negative training attitudes			
Cognitive dissonance 2	.779		
Cognitive dissonance 1	.752		

Table 6.4 shows that two factors were formed from variables that relate to attitudes to training and reaction towards the programme, namely, positive and

negative training attitudes. Factor one (positive training attitudes) consists of items that measure motivation to learn, learning, transfer intention and positive reaction to the programme. Meanwhile, the second factor (negative training attitudes) includes items that assess cognitive dissonance.

Due to the small sample size, besides the variables related to training that need to be minimised, a few other variables, particularly the psychosocial characteristics variables, could also be reduced. OCB, commitment and effort regulation were summed, and labelled as positive work behaviour.

6.3.2.1 Hypothesis 1: Training attitudes influence well-being

The first objective of this study was to investigate the effect of training attitudes on well-being. Since the present study also recorded participants' attendance scores, it is important to include this construct in the analyses. Two types of analysis were conducted – correlation analysis and hierarchical regression. The correlation table is presented first, followed by the hierarchical regression. The first set of analyses (correlation and regression) focused on the association between attendance scores and well-being, and the second set on the association between training attitudes (positive and negative) on postgraduate well-being.

The correlation analysis, shown in Table 6.5, demonstrated that attendance scores and positive training attitudes did not significantly correlate with positive or negative well-being at Time 2. Meanwhile, negative training attitudes positively correlated with positive well-being at Time 2 ($r(73) = .34$, $p < .001$).

Table 6.5

The correlation analysis between psychosocial characteristics, training attitudes and well-being

Variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**	**(13)**
PC (T1) **(1)**	1												
NC (T1) **(2)**	-.567**	1											
PP (T1) **(3)**	.454**	-.369**	1										
PWB (T1) **(4)**	.501**	-.382**	.595**	1									
NWB (T1) **(5)**	-.441**	.423**	-.397**	-.699**	1								
NWC (T2) **(6)**	-.355**	.140	-.182	-.395**	.357**	1							
PWC (T2) **(7)**	.354**	-.241*	.225*	.406**	-.479**	-.434**	1						
PWB (T2) **(8)**	.337**	-.279*	.294**	.252*	-.266*	-.126	.443**	1					
SE (T2) **(9)**	-.285*	.288*	-.113	-.450**	.513**	.372**	-.420**	-.225*	1				
AS (T2) **(10)**	.099	-.241**	.132	.110	-.062	-.100	-.058	-.029	.030	1			
PTA (T2) **(11)**	.149	-.011	.157	.095	.018	-.082	.120	.090	-.016	.235*	1		
NTA (T2) **(12)**	.460**	-.285*	.244*	.286*	-.348**	-.266*	.473**	.405**	-.362**	.026	.000	1	
PWB (T2) **(13)**	.653**	-.395**	.437**	.815**	-.646**	-.460**	.408**	.278*	-.498**	.089	.217	.344**	1
NWB (T2) **(14)**	-.319**	.296**	-.178	-.478**	.690**	.228*	-.324**	-.151	.413**	-.017	-.117	-.056	-.558**

*PC = Positive coping, NC = Negative coping, PP = Positive personality, NWC = Negative work characteristics, PWC = Positive work characteristics, PWB = Positive work behaviour, SE = Stress exposure, AS = Attendance scores, PTA = Positive training attitudes, NTA = Negative training attitudes, PWB = Positive well-being, NWB = Negative well-being, T1 = Time 1, T2 = Time 2. ** p > .001, * p > .05.*

Next, a hierarchical regression analysis was employed, according to the timeline, in which the psychosocial characteristics that were asked about at the beginning of the semester were entered in Block 1, the baseline levels of positive and negative well-being in Block 2, and attendance scores in Block 3.

Tables 6.6 and 6.7 illustrate the hierarchical regression analyses, where the three psychosocial characteristics that were recorded at Time 1 (Model I) and the baseline level of well-being (Model II) were regarded as the control variables, and positive and negative well-being as the dependent variables, along with the DAP attendance scores (Model III) as the input.

In Table 6.6, in which positive well-being is the dependent variable, Model I, with positive and negative coping and positive personality as the predictors, significantly explained 42.3% of the variance in positive well-being ($F(3, 73) = 19.540$, $p < .000$). Model II, in which the baseline levels of positive and negative well-being were added, explained significantly more variance (R^2 change = .320, $F(2, 71) = 48.544$, $p < .000$). This model explained 74.9% of the variance in positive well-being (adjusted $R^2 = .749$). Model III, to which the attendance scores from the DAP were added, explained a slight increase in variance, and this increase was significant (R^2 change = .013, $F(1, 70) = 4.047$, $p < .048$). Model III explained 76% of the variance in positive well-being (adjusted $R^2 = .760$) and was significant ($F(6, 70) = 41.012$, $p < .000$). This finding reveals that attendance score significantly influences positive well-being in a positive direction, after controlling for other variables.

Table 6.6

Hierarchical multiple regression for positive well-being

Dependent variable	**Positive well-being (Time 2)**								
Independent variable	**Model I**			**Model II**			**Model III**		
Step 1	β	t	p	β	t	p	β	t	p
Positive coping	.631	5.379	.000	.390	4.800	.000	.398	4.997	.000
Negative coping	.064	.562	.576	.157	2.071	.042	.194	2.537	.013
Positive personality	.128	1.220	.226	-.206	-2.644	.010	-.203	-2.662	.010
Step 2									
Positive well-being (T1)				.720	7.192	.000	.708	7.203	.000
Negative well-being (T1)				-.105	-1.219	.227	-.135	-1.581	.118
Step 3									
DAP attendance score							.118	2.012	.048
R^2		.445			.766			.779	
ΔR^2		.445			.320			.013	
F change		19.540			48.544			4.047	
Sig. F change		.000			.000			.048	

In Table 6.7, in which negative well-being is the dependent variable, Model I, with positive and negative coping and positive personality as the predictors, significantly explained 9.8% of the variance in negative well-being ($F(3, 73) = 3.765$, $p < .014$). Model II, to which the baseline level of positive and negative well-being were added, explained significantly more variance (R^2 change = .407, $F(2, 71) = 31.408$, $p < .000$). This model explained 50.8% of the variance in negative well-being (adjusted $R^2 = .508$). Model III, to which attendance scores from the DAP were added, explained a slight increase in variance, and this increase was not significant (R^2 change = .008, $F(1, 70) = 1.283$, $p > .261$). Model III explained 51% of the variance in negative well-being (adjusted $R^2 = .510$), and was significant ($F(6, 70) = 14.189$, $p < .000$). This finding shows that attendance scores are not significantly associated with

negative well-being, revealing that only negative well-being at baseline significantly influences negative well-being at Time 2 (beta = .785).

Table 6.7

Hierarchical multiple regression for negative well-being

Dependent variable	**Negative well-being (Time 2)**								
Independent variable	**Model I**			**Model II**			**Model III**		
Step 1	β	t	p	β	t	p	β	t	p
Positive coping	-.266	-1.812	.074	-.048	-.398	.692	-.052	-.455	.651
Negative coping	.150	1.054	.295	.024	.224	.823	-.006	-.054	.957
Positive personality	.020	.150	.881	.200	1.839	.070	.198	1.821	.073
Step 2									
Positive well-being (T1)				-.019	-.139	.890	-.009	-.067	.947
Negative well-being (T1)				.761	6.329	.000	.785	6.442	.000
Step 3									
DAP attendance score							-.095	-1.133	.261
R^2		.134			.541			.549	
ΔR^2		.134			.407			.008	
F change		3.765			31.408			1.283	
Sig. F change		.014			.000			.261	

Next, another hierarchical regression analysis was conducted to examine the influence of positive and negative training attitudes in the context of the DAP on positive and negative well-being. Similar to the previous analyses, the regression analyses were used according to the timeline, in which Block 1 consisted of Time 1 psychosocial characteristics and Block 2 included baseline levels of positive and negative well-being, and Block 3 comprised positive and negative training attitudes.

Tables 6.8 and 6.9 illustrate the hierarchical regression analysis, in which three psychosocial characteristics that were recorded at Time 1 (Model I) and the baseline

level of well-being (Model II) were regarded as the control variables, positive and negative well-being as the dependent variables, along with positive and negative training attitudes in the context of the DAP (Model III) as the input.

In Table 6.8, in which positive well-being is the dependent variable, Model I, with positive and negative coping and positive personality as the predictors, significantly explained 41.9% of the variance in positive well-being ($F(3, 70) = 18.542$, $p < .000$). Model II, to which baseline levels of positive and negative well-being were added, explained significantly more variance (R^2 change = .313, $F(2, 68) = 43.524$, $p < .000$). The model explains 75.6% of the variance in positive well-being (adjusted $R^2 = .756$). Model III, to which positive and negative training attitudes in the context of the DAP were added, explained a slight increase of variance, but this increase was not significant (R^2 change = .017, $F(2, 66) = 2.504$, $p > .088$). Model III explained 74.9% of the variance in positive well-being (adjusted $R^2 = .749$), and was significant ($F(7, 66) = 32.103$, $p < .0005$). This finding reveals that positive training attitudes significantly influence positive well-being in a positive direction (beta = .135).

Table 6.8

Hierarchical multiple regression for positive well-being

Dependent variable	**Positive well-being (Time 2)**								
Independent variable	**Model I**			**Model II**			**Model III**		
Step 1	β	t	p	β	t	p	β	t	p
Positive coping	.636	5.276	.000	.393	4.621	.000	.349	3.915	.000
Negative coping	.085	.717	.476	.165	2.049	.044	.141	1.777	.080
Positive personality	.141	1.317	.192	-.205	-2.507	.015	-.227	-2.812	.006
Step 2									
Positive well-being (T1)				.748	7.149	.000	.742	7.210	.000
Negative well-being (T1)				-.067	-.760	.450	-.085	-.956	.343
Step 3									
Positive training attitudes							.135	2.211	.031
Negative training attitudes							.032	.476	.636
R^2		.443			.756			.773	
ΔR^2		.443			.313			.017	
F change		18.542			43.524			2.523	
Sig. F change		.000			.000			.088	

Meanwhile, in Table 6.9, where negative well-being is the dependent variable, Model I, with three psychosocial characteristics at Time 1 as the predictors, significantly explained 7.7% of the variance in negative well-being ($F(3, 70) = 3.016$, $p < .036$). Model II, to which baseline levels of positive and negative well-being were added, explained significantly more variance (R^2 change = .354, $F(2, 68) = 22.660$, $p < .000$). This model explains 43% of the variance in negative well-being (adjusted $R^2 = .430$). Model III, to which positive and negative training attitudes in the context of the DAP were added, explained a slight increase in variance, and this increase was significant (R^2 change = .061, $F(2, 66) = 4.263$, $p < .018$). Model III explained 48% of the variance in negative well-being (adjusted $R^2 = .480$), and was significant ($F(7, 66)$

= 10.607, $p < .000$). This finding reveals that negative training attitudes significantly influence negative well-being in a positive direction (beta = .222).

Table 6.9

Hierarchical multiple regression for negative well-being

Dependent variable	**Negative well-being (Time 2)**								
Independent variable	**Model I**			**Model II**			**Model III**		
Step 1	β	t	p	β	t	p	β	t	p
Positive coping	-.238	-1.569	.121	-.021	-.169	.866	-.075	-.587	.559
Negative coping	.155	1.031	.306	.046	.384	.702	.066	.575	.567
Positive personality	.035	.260	.795	.213	1.764	.082	.234	2.013	.048
Step 2									
Positive well-being (T1)				-.088	-.570	.571	-.046	-.307	.760
Negative well-being (T1)				.664	5.145	.000	.759	5.949	.000
Step 3									
Positive training attitudes							-.154	-1.750	.085
Negative training attitudes							.222	2.273	.026
R^2		.114			.469			.480	
ΔR^2		.114			.354			.061	
F change		3.016			22.660			4.263	
Sig. F change		.036			.000			.018	

6.3.2.2 Hypothesis 2: Psychosocial characteristics influence well-being

The second objective of this study was to examine the influence of psychosocial characteristics on the postgraduates' levels of positive and negative well-being. Two types of analyses were conducted – correlation and hierarchical regression, for both positive and negative well-being, at Times 1 and 2.

The correlation analysis (Table 6.5) demonstrated that positive well-being at the beginning of the semester was positively correlated with positive coping and positive personality, while a negative correlation can be seen between positive well-

being and negative coping (greater than, or equal to, $r(125) = .38$, $p < .01$). Negative well-being was found to have a negative association with positive coping and positive personality, and a positive correlation with negative coping (greater than, or equal to, $r(125) = .40$, $p < .01$).

Table 6.10 illustrates the multiple regression analyses, with baseline levels of positive and negative well-being as the outcomes. It was revealed that psychosocial characteristics at Time 1 (positive and negative coping and positive personality) explained 42.7% of the variance in positive well-being at the beginning of the semester. Of all the predictors at Time 1, positive personality made the largest contribution (beta = .451), followed by positive coping (beta = .266). Meanwhile, taken together, all of the psychosocial characteristics at Time 1 explained 2.81% of the variance in negative well-being. Of all the predictors at Time 1, positive personality again made the largest contribution (beta = -.212), followed by positive (beta = -.237) and negative (beta = .210) coping.

Table 6.10

Regression analyses for well-being (Time 1) as an outcome

Positive well-being (T1)	**B**	**SE B**	**β**	**t**	**P**
Positive coping	.353	.116	.266	3.037	.003
Negative coping	-.057	.076	-.063	-.749	.455
Positive personality	.434	.075	.451	5.820	.000
Model: R = .654, R^2 = .427				F = 30.579	.000
Negative well-being (T1)	**B**	**SE B**	**β**	**t**	**P**
Positive coping	-.339	.140	-.237	-2.417	.017
Negative coping	.204	.092	.210	2.232	.027
Positive personality	-.220	.090	-.212	-2.443	.016
Model: R = .530, R^2 = .281				F = 16.005	.000

Regarding the effect of psychosocial characteristics at Times 1 and 2 on positive and negative well-being at Time 2, a hierarchical multiple regression was employed according to the timeline, in which only the significant predictors at Time 1, derived from previous analysis (Tables 6.8, 6.9), were included in Block 1. Meanwhile psychosocial characteristics that were asked about at Time 2 were entered in Block 2. However, due to the small sample size, as mention above, OCB, commitment and effort regulation were summed and labelled as positive work behaviour. Thus, positive and negative work characteristics, positive work behaviour and stress exposure were entered in Block 2.

Table 6.11 shows the hierarchical regression analysis. Positive coping, positive personality and positive well-being at baseline (Model I) were regarded as the control variables, and positive well-being at Time 2 as the dependent variable, along with four psychosocial characteristics at Time 2 as the input.

In Table 6.11, in which positive well-being at Time 2 is the dependent variable, Model I, with positive coping, positive personality and positive well-being at baseline as the predictors, significantly explained 70.2% of the variance in positive well-being at Time 2 ($F(3, 72) = 59.990$, $p < .000$). Model II, to which four psychosocial characteristics were added, explained a small increase in variance, but this increase was not significant (R^2 change = .017, $F(4, 68) = 1.049$, $p > .389$). Model II explained 70.3% of the variance in positive well-being (adjusted $R^2 = .703$), and was significant ($F(7, 68) = 26.378$, $p < .000$). The significant predictors in Model II were positive coping (beta = .295), positive personality (beta = -.206) and positive well-being at baseline (beta = .692).

Table 6.11

Hierarchical multiple regression for positive well-being

Dependent variable	**Positive well-being (Time 2)**					
Independent variable	**Model I**			**Model II**		
Step 1	β	t	p	β	t	p
Positive coping	.327	4.145	.000	.295	3.566	.001
Positive personality	-.244	-2.794	.007	-.206	-2.163	.034
Positive well-being (T1)	.770	8.330	.000	.692	6.534	.000
Step 2						
Positive work characteristics				-.044	-.568	.572
Negative work characteristics				-.099	-1.338	.185
Positive work behaviour				.045	.605	.547
Stress exposure				-.089	-1.141	.258
R^2		.714			.731	
ΔR^2		.714			.017	
F change		59.990			1.049	
Sig. F change		.000			.389	

Table 6.12 illustrates the hierarchical regression analysis, in which positive personality and negative well-being at baseline (Model I) were regarded as the control variables, and negative well-being at Time 2 as the dependent variable, along with four psychosocial characteristics at Time 2 as the input.

Table 6.12 shows negative well-being at Time 2 as the dependent variable, with Model I, including positive personality and negative well-being at baseline being the predictors, significantly explaining 44.5% of the variance in negative well-being at Time 2 ($F(2, 73) = 31.044$, $p < .000$). Model II, in which four psychosocial characteristics were added, explained a small increase in variance, but this increase was not significant (R^2 change = .003, $F(4, 69) = .109$, $p > .979$). Model II explained 41.6% of the variance in negative well-being (adjusted $R^2 = .416$), and was significant

($F(6, 69) = 9.916$, $p < .000$). The only significant predictor in Model II was negative well-being at baseline (beta = .711).

Table 6.12

Hierarchical multiple regression for negative well-being

Dependent variable	**Negative well-being (Time 2)**					
Independent variable	**Model I**			**Model II**		
Step 1	β	t	p	β	t	p
Positive personality	.162	1.683	.097	.146	1.401	.166
Negative well-being (T1)	.735	7.639	.000	.711	5.943	.000
Step 2						
Positive work characteristics				.020	.184	.855
Negative work characteristics				-.022	-.221	.826
Positive work behaviour				.005	.045	.964
Stress exposure				.069	.636	.527
R^2		.460			.463	
ΔR^2		.460			.003	
F change		31.044			.109	
Sig. F change		.000			.979	

6.3.2.3 Hypothesis 3: Psychosocial characteristics influence training attitudes

For the third objective of the study, correlation analyses were conducted to investigate the relationship between psychosocial characteristics at Times 1 and 2, and positive and negative training attitudes. Table 6.5 shows that none of the psychosocial aspects significantly correlated with positive well-being. Meanwhile, all of the psychosocial characteristics at both time-points had a significant relationship with negative training attitudes (greater than, or equal to, $r(72) = .24$, $p < .05$).

Due to the small sample size, a hierarchical regression was employed in stages, with the psychosocial characteristics at Time 1 being run first, followed by another regression analysis including the significant predictors from Time 1 along with the psychosocial characteristics at Time 2.

Tables 6.13 and 6.14 illustrate the hierarchical regression analysis, with positive and negative coping and positive personality (Model I) being regarded as the control variables, positive and negative training attitudes as the dependent variable, and positive and negative well-being at Time 1 as the input.

In Table 6.13, in which positive training attitudes was the dependent variable, Model I, with positive and negative coping and positive personality as the predictors, did not significantly explain any variance in positive training attitudes ($F(3, 70) = 1.312$, $p > .278$). Model II, to which positive and negative well-being at baseline were added, explained a small increase in variance, but this increase was not significant (R^2 change = .021, $F(2, 68) = .775$, $p > .465$). Model II also did not significantly explain any variance in positive training attitudes ($F(5, 68) = 1.092$, $p > .373$).

Table 6.13

Hierarchical multiple regression for positive training attitudes

Dependent variable	**Positive training attitudes**					
Independent variable	**Model I**			**Model II**		
Step 1	β	t	p	β	T	p
Positive coping	.200	1.274	.207	.235	1.416	.161
Negative coping	.193	1.248	.216	.170	1.084	.282
Positive personality	.150	1.072	.287	.157	.985	.328
Step 2						
Positive well-being (T1)				.079	.390	.698
Negative well-being (T1)				.203	1.190	.238
R^2		.053			.074	

ΔR^2	.053	.021
F change	1.312	.775
Sig. F change	.278	.465

In Table 6.14, in which negative training attitudes was the dependent variable, Model I, with positive and negative coping and positive personality as the predictors, significantly explained 17.6% of the variance in negative training attitudes ($F(3, 70) = 6.186$, $p < .000$). Model II, to which positive and negative well-being at baseline were added, explained a small increase in variance, but this increase was not significant (R^2 change = .040, $F(2, 68) = 1.825$, p > .169). Model II explained 19.5% of the variance in negative training attitudes (adjusted $R^2 = .195$), and was significant ($F(5, 68) = 4.529$, $p < .000$). The only significant predictor in Model II was positive coping (beta = .407).

Table 6.14

Hierarchical multiple regression for negative training attitudes

Dependent variable	**Negative training attitudes**					
Independent variable	**Model I**			**Model II**		
Step 1	β	t	p	β	T	p
Positive coping	.448	3.124	.003	.407	2.726	.008
Negative coping	-.004	-.027	.978	.027	.189	.850
Positive personality	.014	.106	.916	.014	.100	.920
Step 2						
Positive well-being (T1)				-.136	-.744	.460
Negative well-being (T1)				-.286	-1.866	.066
R^2		.210			.250	
ΔR^2		.210			.040	
F change		6.186			1.825	
Sig. F change		.001			.169	

Regarding the effect of psychosocial characteristics at Time 2 on positive and negative training attitudes, again, hierarchical multiple regression analyses were conducted according to the timeline, in which only the significant predictors at Time 1, derived from previous analyses (Tables 6.13, 6.14), were included in Block 1. Meanwhile psychosocial characteristics that were asked about at Time 2 were entered in Block 2. However, Table 6.13 showed that none of the psychosocial characteristics at Time 1 and baseline level of well-being significantly influenced positive training attitudes. Hence, a multiple regression analysis was used to examine the impact of psychosocial characteristics at Time 2 on positive training attitudes.

Table 6.15 reveals that psychosocial characteristics at Time 2 did not significantly explain any variance in positive training attitudes ($F(4, 68) = .363$, $p > .834$).

Table 6.15

Multiple regression for positive training attitudes

Predictors	**B**	**SE B**	**β**	**t**	**P**
Negative work characteristics	.026	.057	-.062	-.454	.651
Positive work characteristics	.057	.089	.093	.634	.529
Positive work behaviour	.007	.016	.062	.468	.641
Stress exposure	.007	.015	.066	.486	.629
Model: R = .145, R^2 = .021				F = .363	.834

Table 6.16 shows the hierarchical regression analysis in which positive coping (Model I) was regarded as the control variable, negative training attitudes as the dependent variable, and four psychosocial characteristics, recorded at Time 2, as the input. Positive coping was included since this variable was the only one that

significantly influenced negative training attitudes, based on previous analysis (Table 6.17).

In Table 6.16, in which negative training attitudes was the dependent variable, Model I, with positive coping as the predictor, significantly explained 19.7% of the variance in negative training attitudes ($F(1, 71) = 17.427$, $p < .000$). Model II, to which positive and negative work characteristics, positive work behaviour and various stressors experienced by the students were added, explained a slight increase in variance, and this increase was significant (R^2 change = .146, $F(4, 67) = 3.734$, $p < .008$). Model II explained 29.4% of the variance in negative training attitudes (adjusted $R^2 = .294$), and was significant ($F(5, 67) = 7.009$, $p < .000$). The only significant predictors in Model II were positive coping (beta = .266) and positive work behaviour (beta = .244).

Table 6.16

Hierarchical multiple regression for negative training attitudes

Dependent variable	**Negative training attitudes**					
Independent variable	**Model I**			**Model II**		
Step 1	β	t	p	β	T	p
Positive coping	.444	4.175	.000	.266	2.364	.021
Step 2						
Negative work characteristics				.002	.021	.983
Positive work characteristics				.244	2.017	.048
Positive work behaviour				.181	1.598	.115
Stress exposure				-.128	-1.140	.258
R^2		.197			.343	
ΔR^2		.197			.146	
F change		17.427			3.734	
Sig. F change		.000			.008	

6.4. Discussion

The development of the current study was based on some limitations in previous studies, particularly in Chapters 3 and 4. Chapter 3 described an exploratory study that used a cross-sectional design focused on organisational workers who had attended various training programmes provided by their organisations. Moving on from this cross-sectional design, the study in Chapter 4 used a longitudinal design that focused on naturally occurring training, which was in the context of an educational setting. Due to the limitation of these two studies (all of the training attitudes were measured in the context of general training programmes), no firm conclusion could be drawn as to which training attitudes in which module, workshop or training programme had the biggest impact on individuals' level of well-being. The study in Chapter 5 measured training attitudes in more specific programmes (PDMs and ATs). In parallel with Chapter 5, the current study implements a similar approach, using a longitudinal design, with two phases of data collection, and the training attitudes of postgraduate students were examined in a specific context (DAP). A slight modification was added to expand the findings.

Hence, the objectives of this study were: (1) to investigate the influence of training attitudes (in the context of DAP) on well-being; (2) to examine the effect of psychosocial characteristics on well-being; and (3) to investigate the impact of psychosocial characteristics on training attitudes.

For the first objective of the study, which was to investigate the influence of training attitudes on postgraduate levels of well-being, we first examined the effect of the DAP attendance score on positive and negative well-being. Regression analyses revealed that attendance score significantly influenced positive well-being in a positive direction. This suggests that participants who regularly attended the DAP

workshops had a high probability of experiencing better life satisfaction, always being in a positive mood and feeling happier. One possible explanation behind this is that the DAP workshops not only equipped the students with essential skills for commencing their research (e.g. how to critically appraise quality research papers, writing a literature review in the sciences, research integrity), building their skills and competence by using the right tools and methods (e.g. an introduction to Linux shell scripting, interviews and interviewing in social science research, be a better writer), but also facilitated the successful completion of the thesis, whilst maintaining student well-being (e.g. dealing with anxiety, managing stress in the PhD, managing procrastination). Hence, it might be that students who regularly attended the DAP workshops gained a lot of knowledge and skills that helped them to balance their PhD workload whilst maintaining a high level of well-being.

We next investigated the impact of positive and negative training attitudes on well-being, and the results demonstrated that positive training attitudes (including motivation to learn, learning, transfer intention and positive reaction) to the programme significantly influenced positive well-being in a positive direction. This result is consistent with those presented in previous chapters, particularly Chapter 5, where it was also determined that positive training attitudes (in the context of PDMs) were significantly associated with positive well-being, even after controlling for the established factors.

Moreover, the positive association between positive training attitudes and positive well-being in the present study supports previous published studies that examined the influence of these attitudes on well-being separately. For example, Emadpoor et a. (2016) and Henning et al. (2011) found that motivation to learn positively correlated with psychological well-being. Meanwhile student levels of

positive well-being (e.g. social-emotional well-being, overall well-being) were improved after learning and attending classes or programmes (Ashdown & Bernard, 2012; Holfve-Sabel, 2014). Also, certain researchers had noted that intentional behaviour – particularly health-related – could affect one's level of well-being, depending on the strength and completeness of the intention (Pasikowski et al., 2005). It seems possible that the positive association between positive training attitudes and student levels of positive well-being resulted from positive feelings after attending workshops, in which motivated and curious students find the learning process to be a pleasant experience (Ryan & Deci, 2000) that makes them feel empowered and confident due to the newly acquired knowledge (Shapira et al., 2007), hence increasing their level of well-being.

Not only were positive attitudes to training positively associated with positive well-being, the results also pointed to negative training attitudes (cognitive dissonance) significantly influencing negative well-being. A possible explanation for this is that cognitive dissonance happens when individuals experience two or more cognitions or beliefs that contradict each other, with the inconsistency causing them to develop an uncomfortable negative affective state, leading to feelings of discomfort, arousal and restlessness (Festinger, 1962). The more students face cognitive dissonance, the more they experience uncomfortable negative feelings, which could affect their stress and anxiety levels.

Moving on to the second research objective, focusing on the impact of psychosocial characteristics on individual levels of well-being, the predictors of positive and negative well-being at Time 1 were firstly determined. The result revealed that positive coping and positive personality significantly predict positive well-being in a positive direction. Meanwhile, positive coping and positive personality negatively

predict negative well-being, and negative coping positively influences negative well-being.

Next, regression analyses were performed to determine the influence of all psychosocial characteristics (at Times 1 and 2) on positive and negative well-being at Time 2, which were administered a few months after Time 1. The results showed that positive coping and positive well-being at baseline positively influenced positive well-being at Time 2, and positive personality negatively influenced positive well-being. In addition, it was found that negative well-being at Time 2 could be predicted by negative well-being at Time 1.

A strong relationship between coping strategies and well-being has been reported in the literature (e.g. Akhtar & Kroener-Herwig, 2017; Mayordomo et., 2016; Meng & D'Arcy, 2016). As stated by Liu et al. (2016), positive coping, characterised as looking for help when encountering a problem, has a positive correlation with life satisfaction and positive affect, and a negative correlation with negative affect. Meanwhile, negative coping, which includes avoidance, abreaction and employment of other maladaptive strategies, such as tobacco and alcohol use, have been found to have a positive association with negative affect. In addition, positive coping, consisting of problem solving, somatic relief and spirituality, predicts a higher level of psychological well-being, whilst negative coping, (e.g. self-destructive behaviour, internal and external avoidance), predicts a lower level of psychological well-being (Meng & D'Arcy, 2016).

There are several possible explanations to justify the association between coping strategies and well-being. Individuals who focus on a problem and try to solve it, for example by making plans for how to tackle the problem, help to increase their

own levels of well-being. This may be due to having an alternative plan in case a prior attempt failed to solve the problem, which is one of the effective ways to manage a stressful situation (Akhtar & Kroener-Herwig, 2017). In addition, those who had a good level of social support were more confident in their ability, and more likely to engage in more positive core self-evaluation, which facilitates the increase of positive affect and life satisfaction, and decreases negative affect (Liu et al., 2016). Akhtar and Kroener-Herwig (2017) added that avoiding thinking about a problem, or using negative coping strategies, does not help in solving the problem, but makes the situation worse and, as a consequence, promotes the development of a greater sense of anxiety and depression, along with a lower level of well-being.

Furthermore, the positive relationship between positive personality and positive well-being, and the negative relationship between positive personality and negative well-being, at Time 1 are consistent with the findings of previous studies, such as Strickhouser et al. (2017) and Magee and Biesanz (2018). Such studies have investigated the impact of personality traits on well-being (life satisfaction, psychological well-being, stress, depression), primarily determining that certain types of personality, particularly those with positive traits, can predict a high level of positive well-being (Hudson & Fraley, 2016; Pollock et al., 2016) and low negative well-being (Gallagher et al., 2018; Kim et al., 2016).

However, the present study also found that positive personality predicted positive well-being at Time 2, but in a negative direction. This rather contradictory result may be due to the sample, which consisted of postgraduate students who may have encountered several challenges related to their research during the months between Times 1 and 2. As stated above, the majority of the postgraduate students in this study were in their second year. Certain studies have found that, during this stage,

graduate students might still be in an adjustment and adaptation phase (Stewart, 1995), and may be encountering various sources of stress, such as financial problems (Reilly & Fitzpatrick, 2009), time management problems, role responsibilities and academic demands (Maville, Tucker, & Kranz, 2004). Consequently, it might be that having positive personality traits does not actually help in facing and dealing with such stresses and challenges, and subsequently maintaining a good level of well-being.

The present study also revealed that there was an effect of baseline level of well-being on future level of well-being. Also consistent with the previous literature, it was found that well-being at a different time-point could be predicted by baseline level of well-being. For example, Keller et al. (2019) recorded psychosomatic complaints (negative well-being) among employees in five-point of data collection over eight months, revealing that all five-wave of psychosomatic complaints were significantly highly correlated with each other. Meanwhile, Heinitz et al. (2018) found that well-being levels recorded in 2011 were significantly influenced by the level of well-being in 2008, and that depression scores from 2011 could also be predicted by depression levels in 2008. The present study thus confirms previous research by indicating that current levels of both positive and negative well-being can be influenced by past levels of well-being.

In terms of the last research objective (to examine the impact of psychosocial characteristics on training attitudes), the results demonstrated that none of the psychosocial aspects at Times 1 and 2 were significantly associated with positive training attitudes. On the contrary, regression analyses revealed that positive coping and positive work behaviour predicted negative training attitudes in a positive direction. This finding is unexpected, as we assumed that positive predictors would predict positive outcomes and negative predictors would influence negative outcomes.

However, we found that positive predictors (positive coping and positive work behaviour) were associated with a negative outcome (cognitive dissonance). This unforeseen result from the present study is rather hard to explain. A possible explanation might be weaknesses in the study, with the sample size being small, and the association between positive psychosocial aspects and cognitive dissonance thus being derived by chance. Further studies are needed to test this result, and to better understand the predictors of cognitive dissonance.

6.4.1. Implications, limitations and future directions

There are several implications attached to the present study. It contributes to the existing body of knowledge, including adding new knowledge, along with promoting a more practical use. First, because we examined the influence of various psychosocial characteristics on levels of well-being, we add to and provided findings consistent with the existing knowledge in which coping, personality and previous well-being levels play a role in determining future levels of well-being.

Second, by simultaneously investigating the association of various attitudes related to training (motivation to learn, learning, transfer intention, cognitive dissonance and reaction towards the programme) on well-being, we confirmed the new knowledge provided in Chapters 3 to 5. The present study was one of our attempts to bridge the gap between the training and well-being research fields. By combining and investigating the role of training effect predictors on well-being, these relationships were able to be explored in more detail, thus providing new insights into both fields of study.

As previous chapters (Chapters 3 to 5, section 3.4.1 page 123) have discussed, examining and adding training attitudes into the DRIVE model's (Mark & Smith,

2008) framework means that this study not only contributes to the knowledge in the field, but it also conforms to the earlier studies' findings, particularly Chapters 3 and 5. The current study also adds essential information to the model, revealing that the more individuals commit and voluntarily participate in a training programme, the higher their positive well-being will be. Moreover, some of the associations in this study also existed in the model, particularly the association between personality and coping, with well-being.

As a further consequence, this study brought a significant practical use to those who may find the results of this study beneficial. Because it was found that postgraduate students who regularly attend training programmes experienced higher levels of well-being, supervisors can encourage their students to regularly attend related workshops. Similarly, employers in organisations could motivate their employees to participate in training programmes, either related to their job description or otherwise. By partaking in several training programmes or workshops, not only are trainees' knowledge and skills enhanced, they also gain various benefits that help to maintain positive levels of well-being.

Next, because it was found that attitudes to training can influence well-being, trainers should encourage their trainees to maintain their high motivation to learn new things, persuade them to always improve their knowledge and skills, and assist them to promote an intention to implement their new knowledge and skills. Trainers could also make their training programmes more effective, engaging and relatable for the trainees and, at the same time, encourage them to be more confident in applying their new knowledge and skills in a work setting, and convince them that their new knowledge/skills are better than their previous knowledge/skills prior to attending training. This active approach from trainers could not only increase the transferability

of training programmes, but also might be beneficial to trainees through enriching their well-being, even though the training programme content may not be directly aimed at increasing their level of well-being.

However, there were also limitations to the present study. First, the sample size was too small, with only 80 participants taking part in both phases of data collection. Due to time constraints and the methods of advertising the study (via email and social media), not many postgraduate students were willing to participate. Consequently, more advanced analyses could not be performed and, in fact, the regression analyses needed to be interpreted with caution. Also as a result of the small sample size, the data regarding the types of workshops (belonging to Domains A, B, C and D) could not be used. Second, even though the DAP workshops were specifically geared towards postgraduate students, they were varied and diverse, and the students were only asked about their attitudes to training in the context of the DAP in general. Therefore, we did not have enough data to determine their attitudes towards specific workshops that might actually have played a role in promoting a good level of well-being.

These limitations suggest some recommendations and improvements for future studies. First, a better approach for selecting a larger sample of participants, or a different training context should be chosen, or a better way of advertising the study (e.g. distributing questionnaires at the end of each workshop) might be useful in order to obtain a larger sample, and thus provide data that could be analysed with greater confidence. A more advanced analysis, with greater detail, could be provided if the sample size was big enough. Second, future studies should consider choosing training programmes or workshops that are specific; for example, workshops that aim to enhance trainees' levels of well-being. The present study, along with those reported in

Chapters 3 to 5, focused on attitudes to broad training programmes, the course (education) as a whole, and specific programmes (PDMs and ATs) that were not directly designed to improve individuals' well-being. It would be interesting to examine the effect of attitudes to well-being workshops on actual well-being. The same results or outcomes might emerge, or different results could be demonstrated.

6.5. Conclusions

This study parallels that of Chapter 5, and used the same research design and measurements, but with a few modifications to differentiate between the studies. While Chapter 5 focused on undergraduate students involved in two types of programmes (PDMs and ATs), the sample in this chapter was postgraduate students who participated in DAP workshops. In short, the DAP workshops help students to become qualified researchers, equipping them with knowledge and skills so that they can successfully finish their PhDs. Postgraduate students who regularly attended the workshops provided by the DAP team were associated with a high level of well-being, and those who showed positive attitudes towards the DAP workshops (high motivation to learn, improvement of knowledge and skills, high intention to implement the knowledge, evaluated the workshops as effective and useful) also tended to have high levels of well-being. Meanwhile, the students who frequently encountered cognitive dissonance regarding their new knowledge and skills were more prone to experience stress, anxiety and depression. In addition, certain types of psychosocial characteristics were found to also influence positive and negative well-being. Further research is required to confirm the relationship between training attitudes and well-being, especially in the context of specific training programmes – for example, programmes that relate to the enhancement of one's level of well-being. Thus, the study in the next chapter (Chapter 7) focuses on individuals who participated in

intervention programmes that were developed to increase or maintain one's good level of well-being and to decrease stress, anxiety and depression.

Chapter 7:

Associations between Psychosocial Characteristics, Training Attitudes and Well-being in the Context of Various Well-being Intervention Programmes (Study 5)

7.1. Introduction

This chapter reports on the fifth and final empirical study of this project, and represents an extension of Chapters 3 to 6. Studies 1 and 2 (Chapters 3 and 4, respectively) explored the associations between training attitudes and well-being in the broader context of training. Study 1 focused on various training programmes, with a sample consisting of organisational workers who had experienced attending various training programmes. Drawing upon the limitations of Study 1 (Chapter 3), which made use of a cross-sectional methodology, Study 2 (Chapter 4) was conducted using a longitudinal design with naturally-occurring training, in which the training programme was set in the context of an educational setting.

Moving from broad to more specific training programmes, Studies 3 and 4 (Chapters 5 and 6, respectively) focused on specific content. Study 3 focused on two types of programmes – PDMs and ATs, while Study 4 (Chapter 6), focused on postgraduate students attending a Doctoral Academy Programme (DAP). In summary, all the studies in this project have focused on broad training programmes (Studies 1 and 2), and specific training programmes that emphasised particular skills (Studies 3 and 4). However, for the final study, the focus of the training was in the context of

various intervention programmes specifically designed to enhance participants' levels of well-being.

It was necessary to examine individuals' attitudes in various well-being interventions to test the hypothesis that training attitudes in the context of interventions might positively associate with their level of well-being. As Chapter 5 briefly mentioned, as different training programmes bring different psychological outcomes to an individual (Fallon, 2019; Gonenc & Sezer, 2019), different types of interventions exhibit a similar phenomenon even though they may have the same learning objectives (Hung, Su, Yes, Chuang, Yang & Lee, 2019). For example, Hung et al. (2019) revealed that participants in an information, motivation and behaviour skills programme displayed lower rates of ketamine lapse after a year of post-intervention follow-up than those in an education-as-usual programme. Moreover, researchers have demonstrated that differences in the duration of intervention programmes have varying effects on targeted behaviour (Koeydemir, Sokmez & Schutz, 2020). Longer interventions showed stronger immediate effects than shorter interventions, and programmes that were run traditionally (face-to-face) were more effective than those that used technology-assisted methods (Koeydemir, Sokmez & Schutz, 2020). Because the intervention programmes in this study had different durations and varying methods (traditional and online workshops), examining participants' attitudes towards various well-being interventions and the consequential effect on well-being was critical.

For the study reported in this chapter, a more specific content of the training programmes, designed to help the students and staff achieve a better level of well-being, was applied. The training programmes or workshops focused on (1) students undergoing emotional resilience training, provided by counsellors from the Student

Support and Well-being team, Cardiff University, (2) students participating in online courses, or who had called Self-help Resources, and (3) university staff who had attended various well-being workshops organised by the Safety and Staff Well-being team, Cardiff University. This study had three phases of data collection. The first was administered before the training programmes/workshops began (Time 1), the second phase was conducted immediately after the programmes/workshops ended (Time 2), and the final phase took place a month after that (Time 3).

Most of the variables measured in this study were the same as those used in previous studies (see Chapters 3 to 6), with the same psychosocial characteristics, five training variables (motivation to learn, learning, transfer intention, cognitive dissonance and reactions towards programmes) and well-being measurements used. However, two constructs were excluded – effort regulation and stress exposure. These two constructs were ruled out because the present study has three groups that consist of both staff and students. Hence, the use of stress exposure, to record various stressors experienced by the students, was not appropriate for application to the staff. With regard to effort regulation, this construct was also not suitable, especially in the context of various intervention workshops/programmes, as well as the sample. Thus, to standardise the questionnaire across all groups (staff and students), it was better to drop these two constructs.

However, one new training variable was added to the list – transfer of training. The justification in adding this variable was that it might be worth investigating the impact of transfer of training on well-being. Transfer of training in the training research field has always been investigated as one of the outcomes of training programmes (Blume et al., 2010). This variable was considered to represent an important outcome because it marks the effectiveness of a programme, with the

training programme being said to be successful if the trainee can transfer or implement their new knowledge and skills to their work setting. However, there has been limited research to examine the effect of the transfer of training on individual levels of well-being. In fact, even if the training programmes were studied in the context of intervention programmes, most researchers did not examine this relationship. Studies on the effects of stress management (Brennan et al., 2016), resilience (Abbott et al., 2009) or cognitive behaviour therapy (Gardner et al., 2005) on well-being have mostly been applied pre- and post-measurement. These studies measured variables, such as stress, depression, coping skills, general health, appraisal, well-being and many more, before and after the intervention programmes took place, and the changes in these variables were analysed. The increase in positive variables and decrease in negative variables have been seen as positive outcomes of the intervention programmes.

In the context of intervention studies, there might be some influence of transfer of training on well-being. It might be that participants in an intervention programme (e.g. stress, resilience training, or well-being programmes) have implemented the skills they learned in the intervention programme; for example, the use of mindfulness or relaxation techniques contribute to an increased level of well-being. Thus, we hypothesised that not only do individuals with positive training attitudes have better well-being than those who have negative training attitudes, but, more importantly, those who actually use the new skills they learn in intervention programmes also have a higher level of positive well-being.

Similarly to previous chapters, the first aim of this study was to investigate the impact of psychosocial characteristics on a number of training variables (four training attitudes, reaction and transfer of training), and to examine the influence of both

psychosocial characteristics and training variables on an individual's level of well-being. Hence, the hypotheses of this chapter are:

H1: Psychosocial characteristics influence training variables; and

H2: Psychosocial characteristics and training variables predict an individual's level of well-being.

7.2. Method

7.2.1. Research design

This research involved both a between- and within-subject design and longitudinal approach, with three phases of data collection. These consisted of a pre-survey (Time 1), which was held before the workshops/programmes/self-help started, a post-survey (Time 2), which was administered immediately after the workshops/programmes/self-help finished, and a follow-up (Time 3), which was conducted a month after Time 2. The data collection enquired about the participants' psychosocial characteristics, four training attitudes, reaction to the workshops/programmes/self-help, transfer of training and well-being, and was distributed among staff and student participants at Cardiff University.

7.2.2. Participants

At total of 442 participants participated at Time 1, before the training programmes/workshops began, and 416 participated at Time 2, administered immediately after the programmes/workshops ended (Table 1). At Time 3, 193 participants took part in the follow-up study. Only 183 participants completed all three phases of data collection, however. Among those 183 participants, the majority were female (150, 82%), below the age of 23 years (151, 82.5%), of White ethnicity (137, 74.9%) and native speakers of English (165, 90.2%) (Table 7.2).

Table 7.1

Numbers of participants in each group and phases

Group	**Time 1**	**Time 2**	**Time 3**	**Complete all**
Self-help	249	239	122	112
Resilience training	123	108	40	40
Staff workshops	70	69	31	31
Total	442	416	193	183

Table 7.2

Demographic Description of the Sample

		n	***%***
Gender *(N = 183)*	Male	33	18
	Female	150	82
Age *(N = 183)*	Below 23	151	82.51
	24 and above	32	17.49
Ethnicity *(N = 183)*	White (English / Welsh / Scottish / Northern Irish / British)	137	74.9
	White (Other)	19	10.4
	Asian / Asian British	13	7.1
	Black / African / Caribbean / Black British	5	2.7
	Mixed / multiple ethnic groups	7	3.8
	Other ethnic group	2	1.1
Native speaker *(N = 183)*	Yes	165	90.2
	No	18	9.8

7.2.3. Procedure

Prior to conducting this study, ethical approval was obtained from the School of Psychology Ethics Committee, Cardiff University. This study had three phases of data collection, consisting of Times 1, 2 and 3. All three phases were conducted in Semester

1 of 2018. The study involved three types of programmes or workshops – emotional resilience training, self-help resources and staff well-being workshops. The procedure for each group was similar, with slight differences among them in accordance with the suitability of the sample. This study was undertaken with the cooperation of the Staff Well-being and Student Support and Well-being Division teams of Cardiff University. Two trainers and two counsellors were willing to help distribute the questionnaires while they were conducting the staff/student training programmes or workshops.

7.2.3.1. Emotional Resilience Training Programme

This programme was conducted by two trained counsellors from the Students Support and Well-being Division. As soon as the participants (bioscience students) arrived, the counsellors welcomed them, started outlining the programme and briefly described the study's aim and objectives. The participants were provided with handouts describing the programme's content, a set of questionnaires that contained the questions for both Times 1 and 2, and a pre-test code for them to use throughout the data collection process. The participants were encouraged to take part in the study. Next, the Time 1 data collection process took place, with the variables being measured at that time comprising five pieces of demographic information, five psychosocial characteristics and a baseline level of positive and negative well-being. Participants were given 10 minutes to complete this.

Soon after that, the counsellors started the programme, which lasted for two hours. Immediately after the programme ended, the counsellors announced that the Time 2 phase was starting. Four training variables, relating to the context of the programme, consisting of motivation to learn, learning, transfer intention and reaction towards the programme were assessed, along with positive and negative well-being. Another 10 minutes were given to the participants to complete the second

questionnaire. Before the counsellors ended the session, the participants were reminded again that the final phase of the study would take place after one month, and that they were required to keep the pre-test code.

One month after the programme had ended, the researchers sent an email to all of the participants, asking them to participate in the final phase. By clicking the Qualtrics link provided, they were able to start answering the questionnaire. Four psychosocial characteristics, two training variables – cognitive dissonance and transfer of training (in the context of the resilience training) – and positive and negative well-being were measured. At the end of the Qualtrics page, the participants were debriefed and thanked for their participation.

7.2.3.2. Staff Well-being Workshops

For this group, we obtained the help of two trainers from the Safety and Staff Well-being team of Cardiff University. There were at least six different workshops involved, and all of the workshops were directly and indirectly related to well-being, including managing stress, dealing with difficult events, an introduction to mindfulness and many more. Each workshop had 10 to 15 participants.

The data collection procedure was similar to that used for the resilience training group, with the participants being provided with a handout about the specific workshop, a pre-test code and questionnaires for Times 1 and 2. The Time 1 data collection was conducted before the workshop started. The trainers briefly explained the study's procedure, aim and objectives. Participants were encouraged to take part in the study. Nine psychosocial characteristics and a baseline level of positive and negative well-being were recorded. Ten minutes were given to the participants to complete the Time 1 questionnaire.

The workshops then took place, lasting for two to eight hours, depending on the type of workshop the participants chose. After the workshops had finished, the trainer reminded them to answer the Time 2 questionnaire, which included questions about the four training variables and positive and negative well-being. Another 10 minutes were given to the participants to complete this survey.

After one month, an email containing the Time 3 link was sent to all participants. They were required to respond to six questions about demographic information, two about training variables in the context of the workshop that they had attended, and further questions about positive and negative well-being. At the end of the survey, they were debriefed and thanked for their participation.

7.2.3.3. Self-help resources

Permission to use the self-help resources links were granted by the Well-being Coordinator, Student Support and Well-being Division, Cardiff University. The study was advertised among psychology undergraduate students via the experimental management system (EMS) and a Qualtrics Panel link.

Upon clicking the survey link, participants were informed about the procedure, aim and objectives of the study. Then, nine psychosocial characteristics and a baseline level of positive and negative well-being were recorded. Next, they were given a list of hyperlinks that directed them to various self-help resources. They were instructed to choose at least one of the hyperlinks and to read the self-help material in the link to the end. It was estimated that reading the material would take between 10 and 15 minutes.

After the participants had finished reading, the next phase of data collection started. Four training variables, in the context of the self-help resources, along with

positive and negative well-being were measured. At the end of the Time 2 questionnaire, the participants were reminded that the last phase of the study would take place after one month.

At the Time 3 data collection, the study was again advertised via the EMS, and those who had participated in the previous phases were encouraged to take part. At this time, two training variables – cognitive dissonance and transfer of training, in the context of the self-help resources – were asked about. Also, a follow-up level of positive and negative well-being was recorded. The detailed procedure is shown in Table 7.3.

Table 7.3

The procedure of the study

Group	Time 1 (Before the training)	Training/workshops	Time 2 (immediately after)	Time 3 (a month after)
Emotional Resilience Training	**Demographic:** • Age • Gender • Ethnicity • Nationality • Native speaker of English **Psychosocial characteristics:** • Positive coping • Negative coping • Positive personality **Well-being:** • Positive well-being • Negative well-being	Emotional Resilience Training (2 hours)	**Training attitudes:** • Motivation to learn • Learning • Transfer intention • Reaction to the program **Well-being:** • Positive well-being • Negative well-being	**Psychosocial characteristics:** • Negative work characteristics • Positive work characteristics • OCB • Commitment **Training attitudes:** • Cognitive dissonance • Transfer of training **Well-being:** • Positive well-being • Negative well-being
Staff Well-being Workshops	**Psychosocial characteristics:** • Negative work characteristics • Positive work characteristics • OCB • Commitment • Positive coping • Negative coping		**Training attitudes:** • Motivation to learn • Learning • Transfer intention • Reaction to the program **Well-being:**	**Training attitudes:** • Cognitive dissonance • Transfer of training **Well-being:** • Positive well-being • Negative well-being

	• Positive personality **Well-being:** • Positive well-being • Negative well-being	Various well-being workshops for staff (2 to 8 hours)	• Positive well-being • Negative well-being	**Demographic:** • Age • Gender • Ethnicity • Nationality • Native speaker of English • Education
Self-help Resources	**Psychosocial characteristics:** • Negative work characteristics • Positive work characteristics • OCB • Commitment • Positive coping • Negative coping • Positive personality **Well-being:** • Positive well-being • Negative well-being	Various self-help resources (online materials – 10 minutes)	**Training attitudes:** • Motivation to learn • Learning • Transfer intention • Reaction to the program **Well-being:** • Positive well-being • Negative well-being	**Training attitudes:** • Cognitive dissonance • Transfer of training **Well-being:** • Positive well-being • Negative well-being **Demographic:** • Age • Gender • Ethnicity • Nationality • Native speaker of English

7.2.4. Interventions

This study included three types of interventions. The first was the emotional resilience training, which was held for undergraduate students majoring in Biosciences at Cardiff University. The second – self-help resources – was administered online, and was advertised among undergraduate students in the School of Psychology, Cardiff University. The last was focused on the Cardiff University staff who had participated in various well-being workshops. The details for each intervention are given below.

7.2.4.1. Emotional Resilience Training Programme

The Emotional Resilience Training Programme was conducted by two counsellors from Counselling, Health and Well-being, Cardiff University. This two-hour workshop was held for Bioscience undergraduate students at Cardiff University. It was aimed to help the students understand more about resilience, make them aware of what could impact their ability to be resilient, and aid them in recognising what a crisis is and exploring some strategies for building resilience. The workshop also emphasised the need for resilience while at university, with the counsellors discussing skills regarding building self-awareness, being more compassionate towards the self and being mindful.

Throughout the workshop, the students were given exercises, such as a thought exercise. In this exercise, participants were given a scenario, and were required to think about what sorts of feelings the situation invoked, what skills they would need to help them get through the scenario and what their strengths and abilities were. The students were also provided with an activity sheet on how to deal with a crisis, a list of seven learnable skills for resilience, and notes on building upon one's strengths, the inner critic and one's personal support network.

At the end of the workshop, the counsellors reminded the students that the university provided a wide range of flexible support, such as self-help resources, the Well-being Champions and postgraduate peer support groups, a well-being walk-in service, an exercise referral scheme and one-to-one counselling, among many other schemes.

7.2.4.2. Self-help resources (online material)

The online self-help resources were developed by the Health and Well-being team from the Student Support and Well-being Division for all students of Cardiff University. The online, evidence-based self-help resource aims to manage and overcome students' difficulties without the support of a professional. The use of self-help is recommended as the first step towards tackling mental health and well-being concerns.

Various topics can be found on the Cardiff University website regarding self-help resources; for example, there is material about addictive behaviours, body image and eating disorders, communicating more effectively, LGBTQ matters, relationships and many more. For the purpose of this study, topics closely related to improving students' mental well-being were used. In total, a list of 16 topics was compiled online, and each topic was given a link directed to the online material. The students were required to choose at least one link from the list and read the content to the end.

The list of topics included coping with stress, anxiety and depression, which had four subtopics (mindfulness meditation, urge surfing, progressive muscle relaxation and mood-boosting activities), coping with burnout, overcoming procrastination, overcoming perfectionism, increasing your self-esteem, becoming more assertive, improving your concentration, increasing your motivation, handling

criticism well, managing your anger, overcoming loneliness, communicating more effectively and, lastly, and adjusting to the university as a mature student. All of the materials required three to five minutes to read.

7.2.4.3. Staff Well-being Workshops

The Staff Well-being Workshops were conducted by two well-trained instructors from the Safety and Staff Well-being team, Cardiff University. Permission for the cooperation of the team was granted beforehand. The workshops were carried out for university staff at Cardiff University, and all the workshops focused on various content that closely related to facilitating one's level of well-being. The workshops were advertised on the university website, and staff were able to book any workshops they wanted.

Some of the workshops held were managing stress, dealing with difficult events, managing stress in others, introduction to mindfulness, improving resilience and many more. All of these workshops were run in October and November, and the duration of the workshops were between two and eight hours, depending on the workshop. Furthermore, most of the workshops allowed a maximum of 10 to 15 participants only.

At the beginning of the workshops, the instructors stated the aim and objectives of the workshops, after which they delivered the content in an interactive way, with relevant exercises and games included.

7.2.5. Measurements

This study had three phases of data collection. Time 1 was administered before the training workshops started, Time 2 was conducted immediately after the workshops ended and Time 3 was run one month after that. The set of questionnaires consisted of

demographic information that included age, gender, ethnicity, nationality, native speaker of English and educational level (for staff only). The psychosocial characteristics had nine variables in total, while the training variables had six. Positive and negative well-being were asked about in all three phases of the data collection. A more detailed description is supplied below.

7.2.5.1. Psychosocial characteristics and well-being

The psychosocial characteristics measured had seven variables – positive personality, positive and negative coping, positive and negative work characteristics, OCB and commitment. Some of the variables were asked about at the beginning of the workshops (Time 1), and some were asked about one month later (Time 3). Specifically, for participants in the self-help resources group and the staff well-being workshop group, all of the psychosocial characteristics were measured at Time 1. However, for those in the resilience training group, three psychosocial characteristics (positive and negative coping, and positive personality) were administered at Time 1. Meanwhile, the positive and negative work characteristics, OCB and commitment were measured one month after each workshop ended. The justification behind this was that most of the participants in the resilience training group were first-year students who had only just started their studies. Hence, the latter four of the psychosocial characteristics variables were not appropriate to ask at Time 1.

All seven items for psychosocial characteristics along with positive and negative well-being originated from the Short-SWELL scale (Smith & Smith, 2017) as in the previous studies (Chapters 3 to 6). Chapter 3, section 3.2.4.1 (page 107) offers a detailed description of this measurement.

7.2.5.2. Training attitudes

The training variables in this study consisted of motivation to learn, learning, transfer intention, cognitive dissonance, reaction towards the workshops/programmes and transfer of training. Some of the variables, particularly motivation to learn, learning, transfer intention and reaction towards the workshops/programmes, were administered as soon as the workshops/programmes ended (Time 2). Meanwhile, the other two variables (cognitive dissonance and transfer of training) were measured one month after the workshops/programmes finished. The justification behind this was that cognitive dissonance and transfer of training were not applicable to be asked at Time 2, due to the fact that the participants needed to have some experience in applying the new knowledge and skills they learned in the programmes to everyday life. Due to time constraints, a space of one month was thought to be enough to examine their experience in implementing their new knowledge and skills. Also, all training variables were in the context of either the self-help resources, the resilience training or the staff well-being workshops.

All items for the training variables, particularly motivation to learn, learning, transfer intention and cognitive dissonance, used the same measurement as in previous studies (Studies 1 to 4). For these variables, the same measurements were used as in Studies 1, 2 and 3 (Chapters 3 to 5). Chapter 3, section 3.2.4.3 (page 108) gives a detailed description of the measurements.

7.2.5.3. Reaction towards the programme/workshop

For reaction towards the programme (even though this construct was used in previous chapters, particularly Chapters 5 and 6), a different measurement was applied, as we needed to minimise the number of items being asked in each phase. This was due to a request from the trainers about the practicality and time required for the data

collection, which needed to be considered seriously. Hence, this construct had only two items. One originated from Sahinidis and Bouris (2008), which asked, 'How effective is this workshop/programme/self-help?' The respondent scale for this item ranged from 'not effective at all' (1) to 'very effective' (10). Another item came from Kirkpatrick and Kirkpatrick (2016): 'I felt that the workshop/programme/self-help material would be helpful in improving my level of well-being'. The response scale for this item ranged from 'strongly disagree' (1) to 'strongly agree' (10).

7.2.5.4. Transfer of training

Lastly, two items for transfer of training were taken from Tesluk, Farr, Mathieu, and Vance (1995) and one from Saks and Burke (2012). Examples of this variable included, 'I incorporate skills learned in the workshop/programme/self-help into my daily activities', and 'I use the techniques/skills presented in the workshop/programme/self-help to help improve my well-being level'. The response scale for these two items ranged from 'strongly disagree' (1) to 'strongly agree' (10). Meanwhile, the last item for transfer of training was, 'Please indicate the percentage of you that effectively apply and make use of what you learn in the workshop/program/self-help into your daily activities'. The response scale for this item ranged from 'less than 10%' (1) to '100%' (10).

7.2.6. Data analysis

All data were analysed using IBM Statistics SPSS 23, and included both descriptive and inferential analyses comprising a t-test, ANOVA, correlation and multiple regression. The use of both the t-test and ANOVA was essential for examining differences in the variables among the groups and participants. Meanwhile, the correlation analysis was necessary for investigating the relationship between psychosocial characteristics, training variables and well-being. Lastly, the multiple

regression analysis was employed to examine the influence of both psychosocial characteristics and training variables on individuals' levels of well-being.

7.3. Results

The objectives of this study were: (1) to investigate the influence of psychosocial characteristics on training variables and (2) to examine the impact of psychosocial characteristics and training variables on individuals' levels of well-being.

The research findings are presented in two parts. First is the descriptive analysis, and second the inferential analysis, which is presented according to the research questions.

7.3.1. Descriptive analysis

This section presents the descriptive analysis of each variable. The means and standard deviations, along with minimum and maximum values, are shown for the nine psychosocial characteristics, six training variables, and well-being at three time-points.

Table 7.4

Descriptive statistics of psychosocial characteristics, training attitudes, and well-being

Variables	**N**	**Min.**	**Max.**	**Mean**	**Std. Deviation**
Psychosocial characteristics					
Negative work characteristics	183	1	10	5.90	2.20
Positive work characteristics	182	2	10	6.88	1.73
OCB	183	1	10	6.79	1.80
Commitment	183	2	10	7.75	1.84
Positive coping	183	1	10	6.90	1.95
Negative coping	182	1	10	5.41	2.21
Positive personality	182	1	10	6.51	2.13

Training attitudes					
Motivation to learn	182	11	40	30.11	6.68
Learning	181	6	30	21.21	5.33
Transfer intention	180	3	20	14.21	4.00
Cognitive dissonance	182	2	18	8.96	3.62
Reaction to programs	181	2	20	13.71	3.96
Transfer of training	183	2	20	11.57	4.07
Transfer of training (% of skills applied)	183	10	90	40.57	2.15
Well-being (Time 1)					
Positive well-being	183	1	10	6.62	2.08
Negative well-being	183	1	10	5.01	2.26
Well-being (Time 2)					
Positive well-being	181	1	10	6.80	2.04
Negative well-being	181	1	10	5.12	2.15
Well-being (Time 3)					
Positive well-being	183	1	10	6.54	2.31
Negative well-being	182	1	10	5.16	2.56

In Table 7.4, which presents the means and standard deviations of all the variables from all the phases of data collection, it can be seen that, for psychosocial characteristics, participants mostly had moderate negative coping (M = 5.41, SD = 2.21) and negative work characteristics (M = 5.90, SD = 2.20). In addition, participants mostly had slightly higher positive work characteristics (M = 6.88, SD = 1.73), OCB (M = 6.79, SD = 1.80), positive coping (M = 6.90, SD = 1.95) and positive personality (M = 6.51, SD = 2.13). It was also revealed that they had high commitment (M = 7.75, SD = 1.87).

For the training variables, Table 7.4 shows that participants had quite high motivation to learn the content of the training programmes/workshops (M = 30.11, SD

= 6.68), perceived that they had learned a lot during the programmes/workshops (M = 21.21, SD = 5.33), and had quite a high intention to implement their new knowledge and skills (M = 14.21, SD = 4.00). Participants experienced moderate cognitive dissonance (M = 8.96, SD = 3.62), which was slightly higher when giving a positive reaction towards the programmes/workshops (M = 13.71, SD = 3.96). They judged that they had moderately transferred their new knowledge and skills into everyday life (M = 11.57, SD = 4.07), with participants showing that they actually transferred their knowledge and skills by only about 40%.

Lastly, for well-being at the three time-points, it was revealed that participants had slightly high positive well-being at Time 1 (M = 6.62, SD = 2.08), Time 2 (M = 6.80, SD = 2.04) and Time 3 (M = 6.54, SD = 2.15). Meanwhile, they experienced moderate negative well-being at Time 1 (M = 5.01, SD = 2.26), Time 2 (M = 5.12, SD = 2.15) and Time 3 (M = 5.16, SD = 2.56).

7.3.2. Inferential analysis

For the inferential analysis, which determines whether the hypotheses are accepted or rejected, correlation analyses are presented first, followed by the multiple regression analysis.

7.3.2.1. Hypothesis 1: Psychosocial characteristics influence training variables

Moving on to the main analyses of the study, the first objective was to investigate the effect of psychosocial characteristics on training variables (four training attitudes, reaction towards the programmes/workshops and transfer of training). To achieve this objective, the data from all three groups were combined to make a slightly better sample size. It would be more meaningful if the analyses could be measured

separately, and each group could be compared in terms of the size of their effect. However, due to the fact that the sample sizes in each group were not equivalent and, more importantly, the sample sizes of the resilience training and staff workshops groups were relatively small (with 40 and 31 participants, respectively), regression analysis could not be performed for each group, as suggested by Green (1991), where 50 + 8m (m being the number of independent variables) as the rule of thumbs to conduct regression analysis. This study has at least seven independent variables – the psychosocial characteristics that need to be analysed as the predictors of the training variables and well-being. According to Green's (1991) formula, a total of 122 participants would have been required for each group to be able to examine the predictors of both training variables and well-being. Because these numbers were not available, it was better to combine the data from each group to get a total of 181 participants. This number is good enough to run a regression analysis with more confidence.

To examine the influence of psychosocial characteristics on training variables, a correlation analysis was first conducted, followed by the regression analysis.

Table 7.5 shows that OCB, positive and negative coping, and positive personality have a significant correlation with motivation to learn. All of the correlation coefficients were greater than, or equal to $r(181) = .179$, $p < .05$. Next, it was revealed that positive personality and OCB had a positive correlation with learning and transfer intention. All of these were greater than, or equal to $r(181) = .165$, $p < .05$. In addition, cognitive dissonance had a positive relationship with negative work characteristics. The correlation coefficient was equal to $r(181) = .266$, $p < .01$. With regard to reaction towards the programmes/workshops, it was found that OCB, positive and negative coping, and positive personality had a significant

correlation with this variable. All of these were greater than, or equal to $r(181) = .149$, $p < .05$. Lastly, positive personality positively correlated with transfer of training, and the coefficient was equal to $r(181) = .162$, $p < .05$.

Table 7.5

Correlation analysis between psychosocial characteristics, training variables and well-being

Variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**	**(13)**	**(14)**
NWC (1)	1													
PWC (2)	-.305**	1												
OCB (3)	-.054	.143	1											
CM (4)	-.123	.127	.458**	1										
PC (5)	-.036	.152*	.294**	.182**	1									
NC (6)	.202**	-.133	-.244**	-.155*	-.512**	1								
PP (7)	-.063	.177*	.303**	.191**	.541**	-.385**	1							
MTL (8)	.097	.059	.238**	.005	.201**	-.179*	.163*	1						
LN (9)	.104	-.040	.209**	-.004	.109	.004	.166*	.636**	1					
TI (10)	.122	.088	.165*	-.013	.137	-.124	.206**	.751**	.708**	1				
CD (11)	.266**	-.128	-.096	.047	-.117	.112	-.088	-.100	-.051	-.095	1			
RTP (12)	.063	.038	.186*	.062	.149*	-.160*	.257**	.685**	.748**	.776**	-.091	1		
TOT (13)	.050	.074	.101	.068	.136	-.091	.162*	.349**	.332**	.414**	-.162*	.412**	1	
PWB (T3) (14)	-.182*	.134	.171*	.247**	.513**	-.423**	.622**	.088	.145	.062	-.151*	.235**	.111	1
NWB (T3) (15)	.226**	-.152*	-.107	-.063	-.239**	.313**	-.356**	-.078	-.113	-.048	.157*	-.145	-.086	-.553**

*NWC = negative work characteristics, PWC = positive work characteristics, OCB = organisational citizenship behaviour, CM = commitment, PC =positive coping, NC = negative coping, PP = positive personality, MTL = motivation to learn, LN = learning, TI = transfer intention, CD = cognitive dissonance, RTP = reaction toward the programs, TOT = transfer of training, PWB = positive well-being, NWB = negative well-being. *p < 0.05, **p < 0.01.*

Table 7.6

Regression analyses for all training variables

Motivation to learn	**β**	**t**	**Sig.**
OCB	.269	3.154	.002
Model: R = .350, R^2 = .122		F = 3.403	.002
Learning	**β**	**t**	**Sig.**
OCB	.252	2.915	.004
Model: R = .306, R^2 = .094		F = 2.509	.018
Transfer intention	**β**	**t**	**Sig.**
OCB	.185	2.135	.034
Model: R = .320, R^2 = .102		F = 2.745	.010
Cognitive dissonance	**β**	**t**	**Sig.**
Negative work characteristics	.280	3.603	.000
Commitment	.181	2.186	.030
Model: R = .341, R^2 = .116		F = 3.208	.003
Reaction toward program	**β**	**t**	**Sig.**
Positive personality	.220	2.468	.015
Model: R = .311, R^2 = .096		F = 2.592	.014

Table 7.6 illustrates the regression analyses for four training attitudes, reaction to the programmes/workshops, and transfer of training as the dependent variables, and seven psychosocial characteristics as the independent variables. The results show that all of the psychosocial characteristics explained 12.6% of the variance in motivation to learn, with OCB making the most substantial contribution (beta = .269). Meanwhile, taken together, all of the independent variables explained 9.4% of the variance in learning, with only OCB (beta = .248) significantly contributing to this dependent variable. Next, with regard to transfer intention, it was revealed that psychosocial characteristics explained 10.2% of the variance in transfer intention and, again, only OCB made the most significant unique variance (beta = .185). Also, all seven

psychosocial characteristic variables explained 11.6% and 9.6% of the variance in cognitive dissonance and positive reaction towards the programmes, respectively. Among all of the predictors, negative work characteristics (beta = .255) and commitment (beta = .181) significantly contributed to cognitive dissonance, and only positive personality (beta = .220) made the largest contribution in reaction to the programme. Lastly, the regression analysis indicated that psychosocial characteristics did not significantly contribute to the variance in the transfer of training variable.

7.3.2.2. Hypothesis 2: Psychosocial characteristics and training variables influence well-being

The second objective of the present study was to investigate the influence of psychosocial characteristics and training variables on participants' levels of well-being. To achieve this objective, the correlation analysis was conducted first, followed by the regression analysis. Table 7.5 shows that almost all of the positive psychosocial characteristics, except positive work characteristics, had a significant positive relationship with positive well-being at Time 3. In addition, transfer of training significantly correlated positively with positive well-being at Time 3. All of the correlation coefficients were greater than, or equal to $r(181) = .171$, $p < .05$. Meanwhile, negative work characteristics, negative coping and cognitive dissonance negatively correlated with positive well-being at Time 3. All of these were greater than, or equal to $r(181) = .151$, $p < .05$.

Regarding negative well-being at Time 3, Table 7.5 indicates that negative work characteristics, negative coping and cognitive dissonance positively correlated with negative well-being. All of the these were greater than, or equal to $r(181) = .157$, $p < .05$. Meanwhile, positive coping, positive work characteristics and positive

personality had a negative relationship with negative well-being, with a correlation coefficient greater than, or equal to $r(181) = .152$, $p < .05$.

Next, regression analyses were conducted with seven psychosocial characteristics and six training variables as the predictors of positive and negative well-being. The regression analyses were run according to the type of variable (e.g. psychosocial characteristics) and the timeline (e.g. training variables at Times 2 and 3). Hence, all of the psychosocial characteristics were entered in Block 1; four training variables at Time 2 (motivation to learn, learning, transfer intention and reaction) were included in Block 2; while training variables at Time 3 (cognitive dissonance and transfer of training) were included in Block 3. Positive and negative well-being at Time 3 were the outcomes.

Regarding positive well-being as the dependent variable (Table 7.7), Model I, with seven psychosocial characteristics as the predictors, significantly explained 48.1% of the variance ($F(7, 169) = 22.398$, $p < .000$). Model II, to which four training variables were added, explained significantly more variance (R^2 change = .038, $F(4, 165) = 3.229$, $p < .014$). This model explained 51.9% of the variance in positive well-being (adjusted $R^2 = .487$). Model III, to which two training variables were added, explained a slight increase in variance, but this increase was not significant (R^2 change = .006, $F(2, 163) = 1.011$, $p > .366$). Model III explained 52.5% of the variance in positive well-being (adjusted $R^2 = .487$), and was significant ($F(13,163) = 13.848$, $p < .000$). The significant predictors were OCB, commitment, positive and negative coping, positive personality, transfer intention and reaction to the programmes.

Table 7.7

Hierarchical multiple regression for positive well-being

Dependent variable	**Positive well-being**								
Independent variable	**Model I**			**Model II**			**Model III**		
Block 1	**β**	**t**	**p**	**β**	**t**	**p**	**β**	**t**	**p**
Neg. work characteristics	-.115	-1.937	.054	-.094	-1.593	.113	-.070	-1.146	.254
Pos. work characteristics	-.051	-.856	.393	-.013	-.219	.827	-.014	-.238	.812
OCB	-.134	-2.035	.043	-.136	-2.041	.043	-.147	-2.187	.030
Commitment	.168	2.647	.009	.149	2.351	.020	.164	2.554	.012
Positive coping	.222	3.041	.003	.222	3.080	.002	.214	2.949	.004
Negative coping	-.114	-1.712	.089	-.136	-2.012	.046	-.138	-2.045	.042
Positive personality	.462	6.847	.000	.435	6.405	.000	.436	6.411	.000
Block 2 (Time 2)									
Motivation to learn				-.065	-.734	.464	-.065	-.742	.459
Learning				.131	1.445	.150	.136	1.502	.135
Transfer intention				-.263	-2.551	.012	-.269	-2.579	.011
Reaction toward program				.236	2.317	.022	.234	2.278	.024
Block 3 (Time 3)									
Cognitive dissonance							-.082	-1.421	.157
Transfer of training							-.008	-.137	.891
R^2		.481			.519			.525	
ΔR^2		.481			.038			.006	
F change		22.398			3.229			1.011	
Sig. F change		.000			.014			.366	

Meanwhile, having negative well-being (Table 7.8) as the dependent variable and seven psychosocial characteristics (Model I) as the predictors significantly explained 17.7% of the variance ($F(7, 168) = 5.152$, $p < .000$). Model II, in which four training variables were added, explained a slight increase in variance, but this increase was not significant (R^2 change = .021, $F(4, 164) = 1.087$, $p > .365$). This model explained 19.8% of the variance in negative well-being (adjusted $R^2 = .144$). Model

III, to which two training variables were added, explained a slight increase in variance, but this increase was also not significant (R^2 change = .006, $F(2, 162) = .623$, $p > .538$). Model III explained 20.4% of the variance in negative well-being (adjusted $R^2 = .140$), and was significant ($F(13,162) = 3.196$, $p < .000$). The only significant predictors for negative well-being at Time 3 were negative coping and positive personality.

Table 7.8

Hierarchical multiple regression for negative well-being

Dependent variable	**Negative well-being**								
Independent variable	**Model I**			**Model II**			**Model III**		
Block 1	**β**	**t**	**p**	**β**	**t**	**p**	**β**	**t**	**p**
Neg. work characteristics	.164	2.170	.031	.150	1.957	.052	.128	1.602	.111
Pos. work characteristics	-.024	-.319	.750	-.055	-.719	.473	-.052	-.685	.494
OCB	.008	.096	.924	.023	.263	.793	.030	.349	.727
Commitment	.034	.426	.671	.040	.492	.623	.028	.333	.740
Positive coping	.002	.023	.982	.010	.109	.913	.021	.222	.825
Negative coping	.167	1.979	.049	.193	2.215	.028	.197	2.247	.026
Positive personality	-.277	-3.251	.001	-.263	-2.997	.003	-.263	-2.982	.003
Block 2									
Motivation to learn (T2)				.022	.193	.847	.024	.212	.832
Learning (T2)				-.161	-1.370	.173	-.166	-1.407	.161
Transfer intention (T2)				.195	1.460	.146	.209	1.549	.123
Reaction toward program (T2)				-.105	-.798	.426	-.096	-.720	.472
Block 3									
Cognitive dissonance (T3)							.074	.988	.325
Transfer of training (T3)							-.032	-.402	.688
R^2		.177			.198			.204	
ΔR^2		.177			.021			.006	
F change		5.152			1.087			.623	
Sig. F change		.000			.365			.538	

7.4. Discussion

The study in this chapter was derived from previous studies (Chapters 3 to 6). Drawing upon the limitations of previous studies, the current study, which is the final empirical study for this thesis project, represents an extension of Study 1 (Chapter 3) to Study 4 (Chapter 6). Moving on from an exploratory study that uses a cross-sectional (Chapter 3) to longitudinal (Chapters 4 to 6) design, and from broad and various training programmes (Chapters 3 and 4) to specific types of training programmes (Chapters 5 and 6), this final study focused on intervention programmes designed to help students and staff achieve a better level of well-being. Similar to previous studies, the current study also implements a longitudinal approach, with some modification. By assessing participants' attitudes towards the intervention programmes, along with their psychosocial characteristics and well-being levels, two aims were developed: (1) to investigate the influence of psychosocial characteristics on training variables, and (2) to examine the effect of psychosocial characteristics and training variables on individuals' levels of well-being.

For the first objective of the study, which was to investigate the influence of psychosocial characteristics on training variables (four training attitudes, reaction towards the programmes/workshops and transfer of training), the results indicate that OCB positively associated with motivation to learn, learning and transfer intention. Furthermore, the regression analysis showed that cognitive dissonance could be influenced by negative work characteristics and commitment, while positive personality significantly associated with positive reactions toward the intervention programmes.

The significant associations between certain psychosocial characteristics and training variables were consistent with the findings of certain previous studies,

including Al-Eisa et al. (2009), Colquitt et al. (2000) and Machin and Treloar (2004). For example, Facteau et al. (1995) and Colquitt et al. (2000) found that there was a significant positive relationship between commitment and motivation to learn, as confirmed by this study. As proposed by Colquitt et al. (2000), the higher an individual's level of organisational or career/job commitment, the more likely they are to view training as being useful to themselves and their organisation. In addition, previous studies have revealed that self-efficacy – high self-efficacy being one of the criteria for positive personality in this study – significantly influences transfer intention (Al-Eisa et al., 2009; Machin & Fogarty, 2003).

Furthermore, this study highlighted the important of OCB in determining some of the training variables, particularly motivation to learn, learning and transfer intention. A possible explanation for this finding is that it might be related to the nature of OCB itself, where an individual with high OCB might be more positive, and willing to go beyond their job description without expecting any reward from their organisation (Organ, 1988). As proposed by Bolino et al. (2002), OCBs include loyalty, obedience and participation, while O'Reilly and Chatman (1986) mentioned that individuals with high OCB identify themselves with their organisation, hence they are willing to engage in cooperative, altruistic and spontaneous unrewarded behaviour. Due to this quality, they are more open to going above and beyond, which in this study means they were more eager to learn new things and had the intention to implement their knowledge for the sake of their organisation, as well as themselves.

With regard to the last objective (to investigate the influence of both psychosocial characteristics and training variables on well-being), the regression analysis revealed that OCB, commitment, positive and negative coping, positive personality, transfer intention and reaction towards the programmes significantly

influence positive well-being. In addition, transfer intention was significantly associated with positive well-being in a negative direction, while a positive reaction towards the programmes/workshops was positively associated with positive well-being. Meanwhile, negative well-being was influenced by negative coping in a positive direction and positive personality in a negative direction.

This association between coping strategies and well-being is consistent with the literature. The importance of coping strategies on an individual's level of well-being can be seen in Park and Adler (2003) and Carnicer and Calderón (2014) who found that negative or passive coping style, such as avoiding problems, seeking alternative rewards and emotional discharge, was related to low psychological well-being. Meanwhile, a more positive coping style, such as positive reappraisal and strategic problem solving, was related to high psychological well-being. Also, productive coping, which refers to "direct attempts to deal with problems, with or without reference to others" (Frydenberg, 2008, p. 48), consisting of seeking social support and focusing on how to solve problems, has been associated with subjective well-being six months later (Evans, Martin, & Ivcevic, 2018). The results from both the present study and previous research highlight the importance of coping strategies on well-being, wherein the more an individual applies a positive coping strategy, the higher their well-being will become, while the more an individual uses negative well-being, the greater their feelings of stress, anxiety and depression will become.

The influence of personality on well-being was also in line with the findings of previous studies (Bojanowska & Piotrowski, 2018; Hentschel et al., 2017; Hudson & Fraley, 2016). Past research has shown that personality as a whole, particularly the Big Five traits, explains 17% of the variance in life satisfaction, 35% in positive affect, 28% in negative affect (Tanksale, 2015), and an average of 56% of the variance across

a broad range of well-being variables (subjective and psychological well-being; Sun, Kaufman, & Smillie, 2017). Furthermore, as reveal by Hentschel et al. (2017), all personality trait variables (extraversion, openness to experience, emotional stability, conscientiousness and agreeableness) have been significantly associated with affective well-being across four-wave data collection. This result might be due to the nature of the positive personality, in which those who have a high extraversion trait are socially more connected with others and feel like they belong in groups (Harris et al., 2017). Meanwhile, those with high agreeableness and conscientiousness are more responsible in life, can easily meet their personal competence, and their openness and less neurotic traits make them curious, calm and relax, which lead to them experiencing more frequent positive emotions due to them actively being in charge of their actions and decisions (Howell et al., 2016). Hence, these kinds of positive traits can help individuals to maintain a high level of positive well-being.

The significant positive association between commitment and positive well-being is consistent with Lehmann-Willenbrock et al. (2012), Vandenberghe et al. (2015), Clausen et al. (2015), and many others. In Noblet, Graffam, and McWilliams (2008), commitment was positively correlated with various job-related outcomes, such as job satisfaction, job control, social support and psychological health, and negatively associated with workload stressors, physical stressors and treatment stressors among staff with disabilities. Also, affective organisational commitment positively influences self-reported sickness absence, sleep disturbance and psychological well-being (Clausen et al., 2015), and is associated with emotional intelligence, employee engagement and turnover intention (Brunetto et al., 2012; Vecina & Chacón, 2013). A feeling of attachment (affective commitment) with a job and organisation provides a meaningful relationship within oneself, which makes one more open to accept the

anxiety caused by stressors associated with the job and organisation (Glazer & Kruse, 2008).

The last psychosocial characteristic that played an important role in determining a good level of positive well-being was OCB. Surprisingly, the present study showed that OCB was negatively associated with positive well-being. This unexpected result is inconsistent with Boyd and Nowell (2017), Koopman et al. (2016), Conway et al. (2009) and a few others. Previous research has revealed that individuals who engage in the act of OCB have high positive affect (Conway et al., 2009; Koopman et al., 2016), and that OCB also correlates with good psychological well-being (Boyd & Nowell, 2017). However, the present study revealed that those who show this prosocial behaviour, either towards an organisation or to others, tend to have lower positive well-being (less happy, low satisfaction in life and not always in a good mood). A few studies have also found that OCB produces negative outcomes, as suggested by Bolino et al. (2004), who found that OCB may have a dark side, proposing that OCB could derive from self-serving motives. For example, one might perform an OCB act to impress others (employer or management), or there might be more mundane motives, such as exhibiting OCB due to boredom with a job/task, or helping others because they want to cover their counterproductive work behaviour. Bolino and Turnley (2005) found that one type of OCB action, termed individual initiative, consisting of behaviour such as getting to work early and staying late, working during vacations, rearranging personal plans because of work, and so on, is related to higher levels of role overload and job stress, and can increase work–family conflict. Thus, the present study has highlighted the negative consequences of OCB in individuals.

Lastly, with regard to the influence of training variables on well-being, the hierarchical multiple regression showed that only transfer intention and reaction towards the programmes was significantly associated with positive well-being, even after controlling for established factors. This contradicted our expectation that those looking forward to implementing their new knowledge and skills, which they learned in the programmes/workshops, in everyday life had more opportunities to experience positive well-being. However, the present study revealed that individuals who look for the opportunity to use their new knowledge, by having high transfer intention, were more prone to experiencing low positive well-being. This rather contradictory result is difficult to explain, but might be related to the strength of the intention. It could be that, after attending the programmes/workshops (which aimed to increase level of well-being), the participants were eager to implement their knowledge and skills by spending time thinking about how to use these, and looking for opportunities to use these in their daily lives. This reflects a commitment to transfer the knowledge and, by implementing the techniques, it could help in maintaining their good level of positive well-being or decrease their negative well-being. However, they might have failed to actually use their techniques due to lack of opportunity, or perhaps the techniques were not suitable for them, hence causing negative feelings regarding them, such as frustration or disappointment. Other factors might play a role in the relationship between high transfer intention and low positive well-being. Further study is needed to confirm this finding and to explore it in more depth.

The present study also found that reaction towards the programmes/workshops was positively associated with positive well-being. This suggests that the university staff and students who positively evaluated the programmes/workshops as effective and helpful in improving their level of well-being after the programmes/workshops

ended experienced more happiness, were always in a good mood and had high life satisfaction a month later. In fact, in checking through the previous literature regarding this association, this study is among the first to explore the impact of training programme reaction on individuals' level of well-being. Reaction was the first construct investigated in one of the most widely used training evaluation models by Kirkpatrick (1975). The model has four levels, starting with reaction, then learning and behaviour, and ending with result. Reaction assesses the degree to which participants think that a programme is favourable, engaging and relevant to them (Kirkpatrick & Kirkpatrick, 2016). Hence, as was found in the present study, participants who react positively with regard to an intervention programme tend to experience positive well-being. This might be due to positive feelings from attending a programme which they felt to be effective and helpful, where they learned something new and felt happy and empowered by it. As suggested by Kirkpatrick (1975), by measuring participant reaction, it is ensured that the participants are motivated, and interested in learning the content of the programme. Nevertheless, a confirmation and detailed exploration of this relationship is strongly recommended.

7.4.1. Implications, limitations and future directions

The present study has some implications. It contributes to the existing body of knowledge and also provides new knowledge that has a practical use. First, it contributes to the existing knowledge through its examination of the influence of various psychosocial aspects on one's level of well-being. The findings from this study were in line with those of previous studies that revealed that an individual's level of well-being can be influenced by their coping strategies, personality, commitment and OCB.

Second, this study confirmed the new knowledge contained in Chapters 3 to 6, in which empirical studies found a link between training effectiveness predictors (training attitudes) and positive and negative well-being. The results from the present study also showed that a relationship between training variables (four training attitudes, reaction towards the programme and transfer of training) and well-being exists, but only two variables were significantly associated with positive well-being – transfer intention and reaction to the programme.

As in the previous chapters (particularly Chapter 3, section 3.4.1 page 123), which implemented the DRIVE model's (Mark & Smith, 2008) framework to explain the current study's findings overall, a few associations were consistent with the model. For example, consistent associations existed between psychosocial characteristics (personality, coping and commitment) and individual's level of well-being. These findings contribute to the existing body of knowledge in the following way: regarding the link between training variables and well-being, the results provide new knowledge in our finding that a positive reaction towards the intervention positively associated with positive well-being. This new finding adds extra information into the model, making it more comprehensive in explaining the other factors that play a role in determining one's positive and negative well-being.

For the third implication, in which the results of this study bring an important practical use to individuals who might find the results useful and beneficial. Because we found that transfer intention and programme reaction were significantly associated with positive well-being, trainers, for example, could encourage or motivate their trainees or programme/workshop participants to find an opportunity to implement their new knowledge/skills/techniques into their daily lives. It is also important for trainers to remind their trainees, however, not to expect too much, or to become

frustrated if they fail to use these. In addition, the trainers could invest more effort into making the training programme more effective, interactive and relatable to the trainee so that the programme and the trainer would leave a good impression, positively impacting the trainee. This additional effort from the trainer could not only promote a good transferability of the training programme, but could also facilitate the improvement of well-being. Furthermore, it would also be advantageous if the trainer could provide insight or knowledge related to the importance of having good coping strategies, to being committed to a job or area of study, and having a positive personality, explaining that, by having these qualities, the trainee's well-being level could be increased.

There were a few limitations in this study. The main one was that it had an unequal sample size. As mentioned above, there were three groups or interventions in this study – the self-help, resilience training and staff well-being workshops. At the beginning, the aim was to get at least 100 participants in each group; however, due to problems such as miscommunication and practicality issues, we only managed to get 183 participants altogether, with 112 participants in the self-help group, but only 40 and 31 participants in the resilience training and staff well-being workshops groups, respectively. Due to time constraints, we could not wait to collect more data. It would be more meaningful if we could compare the associations of independent and dependent variables across the groups. It might be that participants in the self-help or staff workshops groups had stronger associations or larger effect sizes than the other group.

Second, the present study could not determine a cause and effect relationship, despite the implementation of a longitudinal approach. To discover the causal effect between both independent and dependent variables, all variables need to be asked

about at least twice in each phase of the data collection. However, due to practicality issues, with some of the workshops only running for two hours, the trainer would have faced the problem of adjusting the workshop time to accommodate explaining, administering and collecting the study data. Hence, we were advised to minimise the total number of items at Times 1 and 2 in particular, and so it was not possible to record all the variables twice.

These limitations suggest some recommendations and improvements for future studies. First, a better approach to selecting participants and interventions could be considered in order to get a better sample size, or at least equal sample sizes for each group. It would be better to cooperate with more trainers, or choose more intervention workshops (if time permitted), so that the sample size would be good enough to run analyses for each group. By implementing this recommendation, richer data could be obtained, and more detailed and meaningful findings could be provided. Second, we strongly suggest exploring different types of training attitudes and their relation to well-being. Since the present study only investigated the influence of four attitudes (motivation to learn, learning, transfer intention and cognitive dissonance) and two variables that related to training (reaction and transfer of training) on well-being, it would be useful to explore other variables. Other variables related to training include self-efficacy, cognitive ability, perceived utility of training, realistic training environment and transfer climate (Grossman & Salas, 2011), among many more. It might be that different types of training attitudes or variables would show a better association with well-being. In addition, it would be useful if the mediation and moderation path could be investigated, either with existent training attitudes, new training attitudes or any related variables.

7.5. Conclusions

The present study was the final empirical study for this project. The main aim of this project was to bridge the gap between the training and well-being research fields by examining the link between training attitudes and individuals' levels of well-being. The exploration started with examining four training attitudes, in the context of a broad training programme, on well-being, then moving to specific programmes (PDMs, ATs and the DAP), and finally investigating attitudes to intervention programmes and their relationship to well-being level. Throughout the chapters, it can be seen that a link exists between these attitudes and well-being and, in this chapter in particular, the results demonstrated that transfer intention and reaction towards the intervention programmes/workshops were significantly associated with positive well-being. In addition, other psychosocial characteristics, such as commitment, OCB, coping and personality, also contributed to a high or low level of well-being. Furthermore, OCB was found to be the most important predictor of the training variables, with this variable significantly influencing motivation to learn, learning and transfer intention. Meanwhile, other psychosocial aspects, such as negative work characteristics and commitment, predict cognitive dissonance, and positive personality plays a role in determining positive reactions towards interventions.

The research up to this point has taken the empirical aspects of the thesis to their logical end. Hence, following from this, the next chapter presents an overall discussion of the research programme in relation to the primary objectives of the thesis, the theoretical and methodological implications, overall research limitations, and future research and practical recommendations.

Chapter 8:

General Discussion

8.1. Introduction

This chapter presents an integrated discussion of the research. Firstly, the chapter provides an overview of the research undertaken. Then it proceeds to an evaluation of the six objectives of the thesis. Next, the theoretical and methodological implications of the research are considered. This discussion leads to the research limitations, followed by recommendations for future research and practical recommendations, especially for trainers or teachers. The chapter ends with concluding remarks.

8.2. Overview of the research

This research examines the association between psychosocial characteristics, training attitudes and well-being. Few studies combine the essential elements from training and well-being research. Research in training usually focuses on what makes training programmes effective and successful, while research in well-being emphasises the definition, antecedents and consequences of well-being. The integration between training and well-being fields can be seen in studies that investigate the direct effect of training programmes on an individual's level of well-being, particularly by employing certain types of programmes that purposely aim to increase well-being (more commonly known as intervention programmes), such as stress management interventions, resilience training, cognitive behaviour therapy and mindfulness training.

However, rather than focusing on the direct effect of training programmes on well-being, in this study, four training variables (or attitudes) were measured—

motivation to learn, learning, transfer intention and cognitive dissonance—that are among the predictors of training effectiveness and transfer of training. Hence, the main aim of this thesis is to investigate and explore the association between these four training attitudes and well-being. However, because well-being can be influenced by various factors, the established factors were controlled for. As we also measure psychosocial characteristics, which are the established factors in this study, it is worth examining the relationship between these psychosocial variables and training attitudes. To achieve the research objectives, a quantitative research methodology with various contexts was utilised. Five empirical studies were done to examine the associations between psychosocial characteristics, training variables and well-being. The details of each study can be found in Chapters 3 to 7. The results are summarised below.

8.3. Evaluation of the objectives of the thesis

8.3.1. Objective 1: To review the literature relating to the associations between psychosocial characteristics, training attitudes and well-being.

Chapter 2 addressed the first objective of the thesis by reviewing psychosocial characteristics and well-being, as well as psychosocial characteristics and training attitudes. In addition, this chapter presented a systematic review of the association between training attitudes and well-being. The main findings from this review were 1) positive psychosocial characteristics, which consist of positive personality, positive coping, and positive work characteristics (low demands, high control and support), are positively associated with positive well-being; 2) negative psychosocial characteristics (low in positive personality, negative coping, and negative work characteristics) are positively associated with negative well-being; 3) there was inconsistency between commitment (particularly over-commitment) and OCB on well-being; 4) the

predictors of training attitudes were too specific, which related to training activities; and 5) training attitudes were examined separately in relationship to well-being and did not measure these attitudes in specific contexts (e.g. those related to training). This objective highlighted the justification and the knowledge gap that exists in the literature and helps build a strong fundamental basis for each association.

8.3.2. Objective 2: To examine the relationship between psychosocial characteristics, training attitudes and well-being of organisational workers.

The first empirical study to bridge the gap between training effectiveness predictors (which are referred to as training attitudes) and well-being was conducted among organisational workers who had experience in attending training activities in the past six months. A cross-sectional design was employed to first examine whether any associations between training attitudes and well-being existed after adjusting for other variables (demographic information, psychosocial characteristics) and to investigate the role of psychosocial characteristics on training attitudes. Some of the findings in this study have been published in the *Journal of Education, Society and Behavioural Science* (see Zaiedy Nor & Smith, 2018).

Regarding the first objective, study findings revealed that certain positive psychosocial characteristics (OCB and commitment) positively associated with positive training attitudes. Meanwhile, certain negative psychosocial characteristics (negative coping and negative work characteristics) positively related to negative training attitudes. For the second objective, correlation analysis indicated that positive attitudes towards training had a positive correlation with positive well-being, while negative training attitudes had a positive correlation with negative well-being. However, after controlling for the effect of established factors (psychosocial

characteristics), none of the positive training attitudes was associated with positive well-being.

8.3.3. Objective 3: To investigate the associations between psychosocial characteristics, training attitudes, well-being and academic attainment of undergraduate students.

Moving from a cross-sectional approach to a longitudinal method with two phases of data collection, this objective sought to investigate the association between all variables in a naturally occurring training in the context of educational settings. Because this study focused on undergraduate students, participants' academic attainment was also included. The findings from this study have been published in the *Journal of Education, Society and Behavioural Science* (see Zaiedy Nor & Smith, 2019).

For the first objective, similar with result from previous chapter, the results demonstrated that certain positive psychosocial characteristics were positively associated with positive training attitudes, but none of the psychosocial characteristics was associated with negative training attitudes. For the second objective, all the positive training attitudes were positively correlated with positive well-being, and negative training attitudes were negatively correlated with positive well-being. However, when hierarchical regression was conducted, none of the attitudes towards training (in the context of educational settings) was associated with both positive and negative well-being after controlling for the established factors. In the area of academic attainment, only positive coping and motivation to learn were significantly associated with this outcome.

8.3.4. Objective 4: To assess the relationships between psychosocial characteristics, training attitudes, well-being and academic attainment in the context of Personal Development Meetings and Academic Tutorials.

Because previous objectives measured training attitudes in the context of various training programmes (or modules/classes), no firm conclusions can be drawn about training attitudes in which the programme or module had a bigger impact on well-being. It might be that attitudes towards certain programmes, modules or subjects promote different impacts on positive and negative well-being levels in individuals. Due to this limitation, this objective aimed to further investigate the relationship between training attitudes on well-being, emphasising training attitudes in the specific context, these were PDMs and ATs which both focused on different elements and had different objectives. In addition, three new variables (stress exposure, effort regulation and reaction towards the programmes) were added to expand the study. Again, two hypotheses were developed: 1) psychosocial characteristics influence training variables (in the context of PDMs and ATs); and 2) training variables in both contexts were associated with well-being and academic attainment after controlling for established factors.

Regarding the first hypothesis, as in the previous chapters, certain types of psychosocial aspects were positively associated with positive training variables in both contexts. Meanwhile, negative psychosocial aspects (especially stress exposure) were related to negative training variables in both contexts. Furthermore, for the second hypothesis, training attitudes in the context of PDMs were positively linked to well-being after psychosocial characteristics were controlled for. However, training attitudes that related to ATs did not significantly associated with any well-being outcome. Meanwhile, none of the training variables (training attitudes and reactions

in both contexts) influenced academic attainment, and only OCB was positively link to this outcome.

8.3.5. Objective 5: To examine the associations between psychosocial characteristics, training attitudes and well-being, in the context of Doctoral Academy Programmes among postgraduate students.

Chapter 6 addressed the fifth objective by examining the association between all variables in the context of DAP. This chapter is in parallel with Chapter 5, in which specific programmes were chosen, but with slight modifications. Because Chapter 5 focused on undergraduate students who were involved with PDMs and ATs programmes, Chapter 6 focused on a comprehensive training programme for postgraduate students aimed at developing their research and professional skills (DAP). The highlight of this objective was that participation in the DAP was entirely voluntary, with the students being able to choose which workshops they wanted to participate in; their attendance scores were recorded. Hence, three hypotheses were developed to achieve objective 5.

For the first hypothesis, which stated that training attitudes influence well-being, it was revealed that DAP attendance scores and positive training attitudes were positively associated with positive well-being, and negative training attitudes were positively associated with negative well-being. Regarding the influence of psychosocial characteristics on well-being (second hypothesis), certain positive psychosocial characteristics were related to positive well-being at Time 2. Meanwhile, only negative well-being at baseline was positively associated with negative well-being at Time 2. Regarding the third hypothesis, which stated that psychosocial characteristics influence training attitudes, none of the independent variables was

associated with positive attitudes towards training, while some of the psychosocial aspects were associated with negative training attitudes.

8.3.6. Objective 6: To investigate the associations between psychosocial characteristics, training attitudes and well-being in the context of various well-being intervention programmes.

For the last objective, which was presented in Chapter 7, a more specific content of the training programmes designed to help the participants (students and staff) achieve a better level of well-being was applied. This longitudinal study was performed using intervention groups that consisted of 1) students who took advantage of self-help resources; 2) students who attended emotional resilience workshops; and 3) university staff who chose to participate in various well-being workshops. The same variables as in the studies in Chapters 3 to 6 were used, and a few new items were added to gain a more comprehensive overview. Two hypotheses were developed to achieve this objective.

For the first hypothesis, which stated that psychosocial characteristics influence training variables, the results showed that certain psychosocial characteristics were associated with positive and negative training variables. Regarding the second hypothesis, which examined the influence of training variables on well-being, only transfer intention and reaction towards the programme were associated with positive well-being. The findings also demonstrated that certain psychosocial aspects were stronger predictors of positive and negative well-being than other training variables.

8.3.7. Summary of main research findings

In summary, all of the results from the empirical studies can be divided into three main categories that align with the research objectives: 1) the association between

psychosocial characteristics and training attitudes; 2) the association between training attitudes and well-being; and 3) the association between psychosocial characteristics and well-being. A more detailed explanation of each significant association within specific context can be found in Chapters 3 to 7. Below is the summary of all research designs, samples and measures.

Table 8.1 above shows all of the studies' designs, samples and measures. The table clearly demonstrates the transition from one study to another in order to better understand the relationships between all variables. Starting from exploratory studies that implemented cross-sectional to longitudinal designs (two phases of data collections), and training in general to specific types of training programmes (PDMs/ATs and DAP), the final study then applied an intervention study (well-being intervention with three phases of data collections) to expand the research context. In addition, it can be seen that each study has a different sample size—some studies have a large sample size, with more than 200 participants (studies 1 and 3) and 180 participants (study 5), whereas two studies are of small size, with less than 100 participants (studies 2 and 4). Moreover, throughout the studies, both workers and students were chosen as the samples. Study 1 was conducted only among organisational workers, studies 2 to 4 were focused on university students, whereas the final study used both sample types.

Table 8.1

Summary of research designs, samples and measures

Study	Design	Sample	Measures
Study 1	Cross sectional Various training programme (HR, health and safety, specific skills courses)	Organisational workers (210 participants)	Psychosocial characteristics: • Coping, personality, work characteristics, OCB, commitment Training attitudes: • Motivation to learn, learning, transfer intention, cognitive dissonance Well-being: • Positive and negative well-being.
Study 2	Longitudinal (2 phases) Naturally occurring training (educational setting)	Undergraduate student (Psychology) Time 1 – 180 Time 2 – 95	Psychosocial characteristics: • Time 1 - coping, personality • Time 2 - work characteristics (T2), OCB, commitment Training attitudes: • Time 1 - motivation to learn • Time 2 - learning, transfer intention, cognitive dissonance Well-being: • Times 1 and 2 - positive and negative well-being Academic attainment
Study 3	Longitudinal (2 phases) PDMs and ATs context	Undergraduate student (Psychology) Time 1 – 380 Time 2 – 274	Psychosocial characteristics: • Time 1 - coping, personality • Time 2 - work characteristics (T2), OCB, commitment, effort regulation, stress exposure Training attitudes (PDMS, ATs):

			• Time 2 – motivation to learn, learning, transfer intention, cognitive dissonance, effort regulation, reactions toward programmes Well-being: • Times 1 and 2 - positive and negative well-being Academic attainment
Study 4	Longitudinal (2 phases) DAP context	Postgraduate students Time 1 – 128 Time 2- 80	Psychosocial characteristics: • Time 1 - coping, personality • Time 2 - work characteristics (T2), OCB, commitment, effort regulation, stress exposure Training attitudes/variables (PDMS, ATs): • Time 2 – motivation to learn, learning, transfer intention, cognitive dissonance, reactions toward programme DAP attendance score Well-being: • Time 1 and 2 - positive and negative well-being
Study 5	Longitudinal/intervention (3 phases) Various well-being intervention programmes/workshops	3 groups: Staff well-being workshops (31) Resilience training (40) Self-help resources (112)	Psychosocial characteristics (Time 1/Time 2): • Coping, personality, work characteristics, OCB, commitment Training attitudes/variables: • Time 2 – motivation to learn, learning, transfer intention, reaction towards training • Time 3 – cognitive dissonance, transfer of training Well-being: • Times 1, 2 and 3 – positive and negative well-being

Most of the measurement used in all studies were the same. Psychosocial characteristics, including positive personality, coping, work characteristics, OCB and commitment, along with well-being, were from the Short-SWELL scale (Smith & Smith, 2017), which was used in all studies. Additional psychosocial variables (such as effort regulation and stress exposure) were added later, particularly in studies 3 and 4. With regard to training variables, the four training attitudes, comprising motivation to learn, learning, transfer intention and cognitive dissonance, were measured in all studies. Additional variables such as reactions toward the programmes (studies 3 to 5) and transfer of training (study 5) were measured later. In addition, almost all of the studies were administered in a different time frame (from June 2016 to December 2018), except for studies 3 and 4, which were conducted at the same time (from October 2017 to February 2018). Throughout these studies, a clear understanding of the association between variables was achieved.

A summary of all the results across the studies is presented below. The results were divided into two tables: the first outlines findings related to the predictors of training attitudes/variables (Table 8.2), while the second shows the predictors of positive and negative well-being (Table 8.3).

Table 8.2 demonstrates psychosocial characteristics as the predictors of training attitudes, either as a separate variable (e.g., motivation to learn, learning, transfer intention—Studies 1, 2 and 5), or as combined variables (positive and negative training attitudes—Studies 3 and 4). A few more variables were added in the later studies—reaction towards the programmes and transfer of training. The table demonstrates that some findings were consistent across the studies; for example, the association between OCB and training attitudes. It can be seen that when multivariate analyses (multiple/hierarchical regressions) were conducted, OCB influenced

motivation to learn (studies 1 and 5), learning (studies 1, 2 and 5) and transfer intention (studies 2 and 5). Another psychosocial characteristic that shows some consistency was commitment, which positively influenced motivation to learn (study 1), learning (studies 1 and 2) and transfer intention (studies 1 and 2). Negative work characteristics were also found to influence cognitive dissonance in studies 1 and 5.

However, when examining the results of the association between each psychosocial characteristic and training attitudes/variables in more detail, the findings were inconsistent. Table 8.2 shows that positive personality significantly influenced motivation to learn only in study 1. However, if one looks at the univariate correlations for studies 2 (page 145) and 5 (page 272), these relationships are both significant (.151 and .163). A similar pattern can also be observed between positive coping and motivation to learn. Only study 2 revealed that positive coping significantly influenced motivation to learn; however, examining the univariate correlations for studies 1 (page 115) and 5 (page 272), these relationships are both significant (.354 and. 201). The same trend can be seen in the association between positive personality with learning, transfer intention and cognitive dissonance. Multivariate level of analyses revealed that positive personality only influenced these training attitudes in study 1. But when examining the univariate correlations, positive personality significantly correlated with learning (.166) and transfer intention (.206) in study 5 (page 272), whereas it was correlated with cognitive dissonance (-.214) in study 2 (page 145).

Table 8.2

The summary for the predictors of training attitudes/variables

Predictors / **Outcomes**	Motivation to learn			Learning			Transfer intention			Cognitive dissonance			Reactions			Training transfer	Positive training attitudes			Negative training attitudes		
	S1	S2	S5	S1	S2	S5	S1	S2	S5	S1	S2	S5	S3 (PDMs)	S3 (ATs)	S5	S5	S3 (PDMs)	S3 (ATs)	S4 (DAP)	S3 (PDMs)	S3 (ATs)	S4 (DAP)
Positive coping	×	*	×	×	×		×				×-				×					×-		*
Negative coping		×-	×-							*	×				×-							×-
Positive personality	*	×	×	*		×	*		×	*	×-				×	*						×
Positive work characteristics	×			×	*		×	×			×-		*	*			*	*		×-	×-	*
Negative work characteristics	* -									*		*	×-	*-			×-	*-		×	×	×-
OCB	*		*	*	*	*	×	*	*		×-		×	×	×			×		×-		
Commitment	*			*	*		*	*			×-	*		×				*		*-	×-	
Effort regulation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA								×		
Stress exposure	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	×-	×-			×-	*		*	*	×-

*S1 = Study 1, S2 = Study 2, S3 = Study 3, S4 = Study 4, S5 = Study 5, * = Significant (regression), × = Significant at univariate level but not in the regressions, - = Negative direction.*

Another result that demonstrated a similar pattern is the association between positive work characteristics and learning; negative coping and cognitive dissonance; and commitment and cognitive dissonance. Among these associations, only one study found a significant association at the regression level, but univariate correlations revealed more significant relationships. There were also some variables that were significantly correlated at the univariate level but were not significant at the multivariate level. For example, negative coping was significantly correlated with motivation to learn (-.248, and -.179) in studies 2 (page 145) and 5 (page 272), but not significantly associated when regression analyses were conducted. Similarly, positive coping was significantly correlated with learning (.283 and .210) in studies 1 (page 115) and 2 (page 145), whereas positive work characteristics significantly correlated with transfer intention (.349 and .341) in studies 1 and 2. However, none of these associations were significant when regression analyses were performed.

Moving on to the reactions toward the programme, several consistencies could be found between this variable and psychosocial characteristics across the studies. For example, positive work characteristics significantly influenced reactions towards both PDMs and ATs in study 3. Meanwhile, OCB was significantly correlated with reactions in PDMs/ATs (study 3—page 184) and various interventions (study 5—page 272). However, none of these associations were significant following multivariate analyses. Another variable that showed the same pattern is stress exposure and reactions toward PDMs and ATs in study 3. Univariate correlation revealed that these relationships were significant (-.206 and -.133), but these associations were no longer significant when regression analysis was carried out.

Table 8.2 also demonstrated that when all training attitudes/variables were combined and divided into positive and negative training attitudes, some consistencies

could be observed. For example, positive work characteristic influenced both positive training attitudes in PDMs and ATs in study 3, whereas stress exposure influenced negative training attitudes in both contexts in study 3. In addition, positive work characteristics were associated with negative training attitudes only in study 4 (DAP), but univariate correlations demonstrated that this relationship also existed in study 3 (in both PDMs and ATs contexts). Moreover, negative work characteristics significantly correlated with negative training attitudes in studies 3 (PDMs— .203, ATs—.222, page 184) and 4 (DAP—.266), but these associations were no longer significant when regression analyses were conducted.

In short, the findings revealed that there were some associations between psychosocial characteristics and training attitudes/variables that were significant in terms of univariate correlations, but insignificant at the multivariate level. For example, positive personality significantly influenced motivation to learn only in study 1, whereas other studies did not show any influence of positive personality on this training attitudes. However, when examining the univariate correlations between these two variables in studies 2 and 5, both studies revealed significant correlations. Hence, they were not significant (at the regression level) because of the increased influence of other factors. This observation may have been due to the small sample size and different variables that were inserted into the regression (approach study 2), and different R^2 values (showing varying predictive powers in the different studies).

Another example is the association between positive coping and motivation to learn. Only study 2 revealed that positive coping significantly influenced motivation to learn, but univariate correlations revealed that positive coping positively correlated with this training attitude in studies 1 and 5. The insignificant (regression level) in studies 1 and 5 were due to the stronger influence of other variables (e.g. OCB,

positive personality, commitment). This observation may reflect different variables in the regression and the sample sizes in studies 1 and 5 being significantly larger than for study 2. However, it can be concluded that the similarities at the univariate level provided a better picture of consistency.

Table 8.3

The summary for the predictors of well-being

Predictors / **Outcomes**	**Positive well-being**					**Negative well-being**				
Psychosocial characteristics	S1	S2	S3	S4	S5	S1	S2	S3	S4	S5
Positive coping	*	×	*	*	*	*		×-	×-	×-
Negative coping			×-	×-	*-	*	×	×	×	*
Positive personality	*	*	*	*-	*	*-	*-	*-		*-
Positive work characteristics	×		×	×				×-	×-	×-
Negative work characteristics				×-	×-	*			×	×
OCB	×	×	×		*-					
Commitment	*	*	×		*					
Positive work behaviour (S4)				×						
Effort regulation										
Stress exposure			*-	×-				*	×	
Training attitudes/variables										
Motivation to learn	×	×								
Learning	×	×								
Transfer intention	×	×			*					
Cognitive dissonance		×-			×-	*				×
Reactions					*					
Transfer of training										
Positive training attitudes			*PDMs ×ATs	*DAP						
Negative training attitudes			×-PDMs ×ATs	×				*PDMs ×ATs	*DAP	
Attendance score (S4)				*DAP						

*S1 = Study 1, S2 = Study 2, S3 = Study 3, S4 = Study 4, S5 = Study 5, * = Significant (regression), × = Significant at univariate level but not in the regressions, - = Negative direction.*

Next, Tables 8.3 presents the predictors of positive and negative well-being across the studies. Hierarchical regressions were conducted with psychosocial characteristics and training attitudes/variables as the predictors. A few results were consistent throughout the studies – for example, the influence of positive personality on individuals' level of well-being. On the other hand, the effect of training attitudes on one's well-being shows mixed findings.

The table demonstrates that the influence of positive personality on both positive and negative well-being was significant in all studies, except in study 4 (negative well-being). This shows a consistent and stable effect of personality on well-being regardless of its contexts and samples. Moreover, it can be seen that positive coping significantly influenced positive well-being in all studies, apart from study 2. However, when examining the univariate correlation for study 2 (page 145), this relationship is significant. In contrast, positive coping significantly influenced negative well-being in study 1 only, but univariate correlations for studies 3 (page 191), 4 (page 223) and 5 (page 272) revealed that these relationships were significant (-.237, -.319 and -.239, respectively). Similarly, the influence of commitment on positive well-being can be observed in studies 1, 2 and 5, but the univariate correlation demonstrates that this relationship was also significant in study 3.

The table also illustrates that negative coping negatively influenced positive well-being in study 5, but regarding the univariate correlations for studies 3 (page 191) and 4 (page 223), these relationships are both significant (-.423 and -.395). In addition, the significant influence of negative coping on negative well-being was significant in studies 1 and 5, whereas the univariate correlations for studies 2, 3 and 4 show that these relationships were significant (.237, .158 and .296, respectively). There were also several variables that were significant in terms of univariate correlations, but

insignificant at multivariate levels., such as the correlation between positive work characteristics with positive well-being (studies 1, 3 and 4) and negative well-being (studies 3, 4 and 5) and negative work characteristics with positive well-being (studies 4 and 5).

Furthermore, it was demonstrated that OCB significantly influenced positive well-being in study 5, but univariate correlations in studies 1, 2 and 3 provided evidence that these relationships were significant (.397, .272 and .197). A similar pattern can be seen between negative work characteristic and negative well-being. Multivariate analyses revealed that this association was significant in study 1, but univariate correlations found that these values were significant in studies 4 (.228) and 5 (.229). Apart from the abovementioned psychosocial characteristics as the predictors to positive and negative well-being, stress exposure, which was added in studies 3 and 4, revealed that this variable significantly influenced both types of well-being only in study 3, but univariate correlation demonstrated that this relationship was also significant in study 4.

As a summary for the association between psychosocial characteristics and well-being, it was revealed that one variable—positive personality—consistently influenced both positive and negative well-being in almost all of the studies. On the other hand, the remaining psychosocial variables were significantly associated with either positive or negative well-being in some studies at the multivariate level; however, univariate correlations demonstrated that these relationships were significant. Hence, some of the associations were not significant at the multivariate level, but were significant at the univariate correlation, due to the increased influence of other factors, particularly positive personality. In addition, these observations may reflect different variables in the regression; for example, some of the predictors were

entered in a different block when conducting the hierarchical regression—in studies 1 and 5, all psychosocial variables were placed in block 1, whereas study 3 only put three of the variables in block 1 and the rest were entered in block 2, and additional variables (effort regulation and stress exposure) were added later in block 2 in study 3. This differing procedural approach across the studies may help in explaining the inconsistent results at multivariate levels.

Moreover, another factor that caused the insignificance at the multivariate level is the different sample size in each study. A few studies (particularly 3 and 4) were of small sample size, leading to careful consideration in conducting hierarchical regression and therefore, the interpretation must be viewed cautiously. In addition, most of the studies demonstrated different R^2 values. For example, the predictive power to positive well-being (psychosocial characteristics as the predictor) in study 4 was higher (R^2 = .731) compared to other studies (ranging from .307 to .540). Thus, it can be concluded that despite the insignificance at the multivariate level, the similarities of the findings at the univariate level provide a better picture of consistency.

Moving on, regarding the effect of training attitudes/variables on well-being, the results show some mixed findings across the studies. When training attitudes/variables were analysed as a combined variable, positive training attitudes was found to significantly influence positive well-being in studies 3 and 4, where the attitudes were measured in a specific context (PDMs and DAP). However, if one looks at univariate correlations, positive training attitudes in the context of ATs (study 3) also significantly correlated with positive well-being. Meanwhile, for negative training attitudes, this attitude significantly influenced negative well-being in studies 3 (PDMs) and 4 (DAP). However, univariate correlations show that negative training

attitudes in the context of ATs had a significant relationship with negative well-being. In addition, both negative training attitudes in studies 3 and 4 significantly correlated with positive well-being.

When the attitudes were analysed as a separate variable, some of the positive training attitudes also significantly correlated with positive well-being, such as motivation to learn and learning in studies 1 and 2. But these associations were not significant at the multivariate level. On the other hand, transfer intention significantly influenced positive well-being in study 5, but univariate correlations in studies 1 (page 115) and 2 (page 145) show that these relationships were both significant (.350 and .343). Table 8.3 also demonstrates that cognitive dissonance significantly influenced negative well-being in study 1, but with respect to the univariate correlations for study 5 (page 272), this relationship was significant (.157). Cognitive dissonance negatively was also found to correlate with positive well-being in studies 2 and 5 (.227 and .151, respectively). Other training variables that significantly influenced positive well-being were reactions towards the programme (only significant in study 5) and attendance scores (only significant in study 4).

In sum, hierarchical regressions were conducted among all predictors (psychosocial characteristics and training attitudes/variables) on both positive and negative well-being. When psychosocial variables were controlled for, the influence of training attitudes/variables on well-being showed mixed findings, and a few consistencies emerged across the study. Some of the attitudes/variables towards the training programmes significantly influenced well-being only in certain studies; for example, transfer intention (study 5), reactions towards the programmes (study 5) and cognitive dissonance (study 1). Examining the univariate correlations, however, other training attitudes significantly correlated with well-being in particular studies. Hence,

these values were not significant at the multivariate level due to an increased influence of other factors, particularly the effect of psychosocial characteristics on one's level of well-being. This result may reflect, as mentioned previously, different variables being used in the regression. When hierarchical regressions were conducted, these training attitudes/variables were sometimes entered either in block 2 (study 2), block 3 (studies 1, 3 and 4), or both blocks 2 and 3 (study 5).

Secondly, the observed insignificance at the multivariate level may have been due to the different sample size in all studies, particularly those studies that had substantially small sample sizes (less than 100 participants), such as studies 2 and 4. Thirdly, the insignificant result may have reflected different R^2 values showing varying predictive powers in the different studies. Finally, the different context in each study may also have led to the insignificant results. Even though all of the measured training attitudes were the same in almost all studies, the context was rather different in each study. For example, studies 1 and 2 assessed participants' training attitudes in the context of various training programmes/classes, or their attitudes towards training in general, whereas studies 3 and 4 determined the training attitudes in the context of specific programmes (PDMs/ATs and DAP), and study 5 measured participants' training attitudes in the context of well-being intervention programmes. These factors might be helpful in explaining the insignificant results at the multivariate level compared to the significance found at the univariate level. However, it can be concluded that despite the observed insignificance at the multivariate level, the similarities of the findings at the univariate level provided an improved picture of consistency.

An overall summary of the main research findings, with support from the literature, is presented in the next section.

8.3.7.1. The association between psychosocial characteristics and training attitudes

One of the objectives of the research was to identify the predictors of training attitudes by assessing participants' psychosocial characteristics, which consist of personality, coping, work characteristics, commitment and OCB. Among these independent variables, commitment was the most consistent variable that was positively associated with all attitudes towards training across all contexts (Chapters 3, 4, 5, and 7), followed by OCB (Chapters 3, 4 and 7), positive work characteristics (Chapters 4, 5 and 6), and negative work characteristics (Chapters 3, 5 and 7).

Following the approach Colquitt et al. (2000) proposed, which emphasised both individual and situational characteristics, the results showed some consistency with the literature. However, the past literature had examined the role of individual and situational characteristics in very specific contexts in which the variables were closely related to training activities. For example, the work environment, particularly support from supervisors and co-workers, was assessed with regard to positive feedback about participants (trainees) applying the new knowledge and skills from training programmes to the work setting (Al-Eisa et al., 2009; Machin & Fogarty, 2003). Another study measured participants' level of locus of control or self-efficacy in the context of training, such as how high their confidence was in their ability to succeed in training programmes (Al-Eisa et al., 2009). This study implemented a slightly different perspective, in which the predictors of training attitudes were in a general context in which participants were asked about their general perceptions of their various psychosocial characteristics rather than being related to training activities.

Most of the studies in this thesis found that an individual with high commitment was positively associated with positive and negative training attitudes across various contexts. This finding was in line with Machin and Treloar (2004) and Colquitt et al. (2000), who also revealed that organisational commitment positively influences motivation to learn the content of training programmes. In addition, even though the positive relationship between positive work characteristics and motivation to learn was consistent with Taris et al. (2003) and De Lange et al. (2010), the operationalisation of learning motivation between the current research and theirs was different. This research also found that OCB was positively associated with all positive training attitudes in three training contexts—various and broad training programmes (Chapters 3 and 4) and intervention programmes (Chapter 7). This suggests that individuals who exhibit altruistic behaviour (e.g. model student/employee, helping others) also showed high motivation to learn, perceived that their knowledge and skills have improved and have high intentions to implement the new knowledge and skills. For this particular finding, no other research to date has examined these variables.

Furthermore, it is worth mentioning that this research is among the first to examine the predictors of cognitive dissonance. Past research has focused on the consequences of cognitive dissonance rather than its antecedents. In this study, it was revealed that cognitive dissonance was positively associated with negative coping (Chapter 3), work characteristics (Chapter 3, 6 and 7), commitment (Chapters 5 and 7) and stress exposure (Chapter 5).

In short, it can be concluded that positive psychosocial aspects associate positively with positive training attitudes, while negative psychosocial aspects associate positively with negative training attitudes. However, some studies yielded unexpected results, in which a few positive psychosocial characteristics showed a

positive relationship with negative training attitudes. These findings were mostly due to cognitive dissonance (negative training attitudes). For example, even though all the psychosocial characteristics revealed a negative relationship with cognitive dissonance across all studies, surprising results emerged in certain studies. For example, positive personality and positive work characteristics positively associated with cognitive dissonance in Study 4, and commitment displayed a positive relationship with cognitive dissonance in Study 5.

These mixed findings might be due to a few possible factors such as small sample size (notably Study 4), measuring cognitive dissonance in different contexts (in a broad training setting as opposed to specific training programmes) and different analysis procedures. Participants might have viewed the training programmes differently. For example, the students might have believed that ATs (Study 3) were more meaningful and relevant to them than PDMs (Study 3), DAP (Study 4) and various interventions (Study 5). Hence, they experienced more or less cognitive inconsistency regardless of the influence of positive psychosocial aspects.

In drawing a conclusion regarding the association between psychosocial characteristics and training attitudes, some of these results are consistent with the previous literature (particularly relationships involving commitment and training attitudes), but a few new findings also emerged. More research is needed to examine the predictors of training attitudes by using various psychosocial characteristics in a more general context rather than in specific training activities.

8.3.7.2. The association between training attitudes and well-being

The main aim of this research was to investigate and explore the influence of four training attitudes that are predictors of the successfulness and effectiveness of training programmes on one's level of well-being. Past research has examined the role of these

variables on well-being separately and within general contexts. By assessing these variables in the contexts of various and broad training activities, specific training programmes and various intervention programmes, a few important, yet mixed, findings were derived.

Firstly, when the attitudes were investigated individually, positive well-being was negatively associated with transfer intention and positively associated with reaction towards the programmes (Chapter 7). However, when all the positive attitudes towards training were combined (motivation to learn, learning, transfer intention and reaction towards the programmes), factor analysis demonstrated that this construct was positively associated with positive well-being in the context of specific training programmes (PDMs and DAP—Chapters 5 and 6, respectively). On the contrary, cognitive dissonance or negative training attitudes was positively associated with negative well-being in both broad and various training activities (Chapter 3) and specific training programmes (PDMs—Chapter 5). In addition, Chapter 6 has highlighted that freedom to attend training, which was assessed by attendance score points, was positively associated with positive well-being.

The positive influence of positive attitudes, which the combination of a few training attitudes on well-being might be due to the effect of intrinsic motivation (Bye et al., 2007; King & Ganotice Jr, 2015), and feeling of enjoyment after learning new knowledge and skills (Dench & Regan, 2000; Jenkins & Mostafa, 2015; Perkins & Williamon, 2014). However, limited studies have examined the influence of transfer intention and reaction towards the programmes on individuals' level of well-being. Most of the studies that integrated behavioural intention and well-being were focused on health-related behaviour or applied implementation intention as an intervention. Even though there was evidence stating that implementation intention or behavioural

intention positively influenced one's well-being (Hattar et al., 2016; Lyubomirsky et al., 2005; Pasikowski et al., 2005), all of these studies have different operationalisation definitions than this study. By measuring participants' intentions to implement the new knowledge and skills from training programmes in daily life and their relationship to well-being, this study is among the first to investigate this relationship.

The same goes for the relationship between reaction towards the programmes and well-being, in which such reaction was usually measured as one of the predictors of training effectiveness (Kirkpatrick & Kirpatrick, 2011; Kirkpatrick, 1975), and almost none of the studies had previously examined it in relationship to well-being. More research is needed to address and confirm these associations. In short, the positive association between positive training attitudes and positive well-being could be explained by self-determination theory (Ryan & Deci, 2017), in which individuals performed certain behaviour due to interest and an expectation to receive a 'reward'. One would expect to experience spontaneous feelings of effectiveness and positive feelings that accompany the behaviours. In addition, value might play a role in these associations as when individuals value the importance of training programmes they develop a more positive attitude towards them, which turns into positive feelings and eventually increases their level of well-being.

Moving on to the effect of cognitive dissonance or negative training attitudes on well-being, as discussed in more detail in Chapters 3 to 7, this research has emphasised that individuals who experience cognitive dissonance when applying new knowledge and skills to daily life are more prone to encounter stress, anxiety and depression. This finding is best explained by using cognitive dissonance theory (Festinger, 1962), in which the inconsistency or incongruence of thoughts, feelings and beliefs will create psychological discomfort. As a consequence, it increase one's

stress level (Palsane, 2005), emotional exhaustion (Kovacs et al., 2010), work strain (Cheung & Tang, 2010) and other negative outcomes. Due to the limited sources that have measured cognitive dissonance in the context of training programmes, more research is highly recommended into both its relationship to well-being and its relationship to training effectiveness.

8.3.7.3. The association between psychosocial characteristics and well-being

Finally, the findings from this research derived the conclusion that various psychosocial characteristics were stronger predictors of both positive and negative well-being than positive and negative training attitudes. After conducting hierarchical regression in which these characteristics (or the established factors) were controlled for, none or only a few of the training attitudes were significantly associated with well-being, and certain psychosocial aspects remained significant in predicting well-being.

Among the main psychosocial variables (positive personality, coping, work characteristics, OCB and commitment), the two most consistent factors were positive personality (Chapters 3 to 7) and commitment (Chapter 3, 4, 5, 7). Positive personality, which is defined as an individual who possesses high conscientiousness, agreeableness, openness, extraversion, emotional stability and high self-esteem and optimism, resulted in more positive well-being and less negative well-being. This finding aligned with various literature (Ahmad et al., 2018; Strickhouser et al., 2017; Sun et al., 2017). With regard to commitment, which was measured as an individual who has high job/study satisfaction and a motivated employee/student who does not intend to leave the organisation/university, was positively associated with high positive well-being. This is consistent with other studies, such as Clausen et al. (2015)

and Siu (2002), which also revealed that those with high commitment experience various types of well-being.

The research also revealed that positive coping was positively associated with positive well-being (Chapters 5, 6 and 7), and negative coping was positively associated with negative well-being (Chapters 3 and 7). These findings support previous research that emphasised the role of coping strategies in determining one's level of well-being (Barendregt et al., 2015; Carmel et al., 2017; Rabenu et al., 2017). In addition, negative work characteristics (high demand and low support and control) were positively associated with negative well-being (Chapter 3), and this result was also in line with other research (Galvin & Smith, 2015; Williams et al., 2017; Zurlo et al., 2018). Finally, OCB (being helpful, courteous and a good sport) was negatively associated with positive well-being (Chapter 7). This finding supports Bolino et al. (2004) suggestion that OCB acts might have a dark side and an adverse effect on one's well-being.

Briefly, positive psychosocial aspects have a positive link with positive well-being, and negative psychosocial aspects are associated positively with negative well-being. However, a few studies offered inconsistencies and yielded unexpected results. For example, although a positive personality has a positive relationship with positive well-being and associated negatively with negative well-being across the studies, Study 4 showed that a positive personality has a negative relationship with positive well-being. Similarly, except for Study 1, positive coping had a positive association with positive well-being and associated negatively with negative well-being in all other studies. In Study 1, this independent variable associated positively with negative well-being. Meanwhile, OCB was found to associate negatively with positive well-being only in Study 5. These rather surprising findings have a few possible

explanations, such as small sample size (particularly in Study 4), different background of the sample participants (workers for Studies 1 and 5 versus students in Studies 2, 3 and 4), and different analysis procedures across the studies. For example, the explanation of the negative association between positive personality and positive well-being in Study 4 might be due to the sample's background. In this case, we chose postgraduate students for the sample; participants came from different academic years (Year 1, 2, 3 or 4 into their doctorate) and may have encountered various sources of stress related to their doctoral phases. Hence, for these participants, having a positive personality might not have helped in maintaining high positive well-being. A detailed explanation can be found in Chapter 4, section 6.4, page 236.

Even though unexpected results emerged in some of the studies, overall, the conclusion can be drawn that positive variables are associated positively with positive outcomes, while negative variables are associated positively with negative outcomes. For example, positive psychosocial characteristics positively influence positive training attitudes and positive well-being, and negative psychosocial characteristics and negative training attitudes are positively related to negative well-being. A possible explanation behind the positive relationship between positive predictors and positive outcomes, and negative predictors and negative outcomes is the role of human values within individuals. Maio (2016) drew two conclusions about the effect of values on well-being: first, individuals experience positive affect and well-being from ideas, activities and events that might help promote their values. Second, 'emotional reactions to our own violations of a value depend on the relative importance of the value to the self and the value's role as a self-guide'. To use this statement to explain the result in this research, it might be that those who highly value the importance of education and development will view these activities as beneficial regardless of the

content, and exhibiting good qualities in oneself (or positive psychosocial characteristics), and showing a positive attitude towards any given situation to help develop one's positive emotions and well-being.

8.4. Theoretical and methodological implication

The research undertaken in this thesis gives a new perspective on both training and well-being research. Because this study is the first to combine several training attitudes simultaneously and, most importantly, within the context of training into a well-being research context, the findings from this work thus contribute to new knowledge. The main training attitudes—motivation to learn, learning, transfer intention and cognitive dissonance (along with reaction towards the programmes and transfer of training) in the context of training—were selected to explore the influence of these variables on well-being. Past studies in the training field have found that these variables are useful in predicting the successfulness and effectiveness of training programmes (Blume et al., 2010; Burke & Hutchins, 2007; Elangovan & Karakowsky, 1999; Velada et al., 2007).

One study objective was to identify the predictors of training attitudes/variables in various training contexts. As mention earlier (page 304), following the approach of Colquitt et al.'s (2000) integrative theory of training motivation, some findings in the current study coincided with the theory. Notably, certain variables related to personality, situational and job variables as the predictors to training variables. Some associations in the current study, especially the link between variables related to personal characteristics (positive personality as a whole) and training variables were consistent with the model, thus contributing to the existing body of knowledge.

Additionally, the current study also contributes new knowledge to the field, as most of the variables in the integrative model (Colquitt et al., 2000) were primarily in the context of a specific training programme. For example, items for manager and peer support were 'My supervisor insures me about the opportunity to use the new skills in the workplace' and 'My co-worker encourages me to apply what I have learned from the training program' (Bates, Holton, Seyler & Carvalho, 2000). In the current study, rather than focusing on job and situation variables specific to a certain training programme, this study implemented a psychosocial aspect in a broader and more general context (e.g. 'To what extent does your job have positive characteristics [control over what you do or how you do it; support from colleagues; support from manager; appropriate rewards]?'). Moreover, by examining all the training variables simultaneously (motivation to learn, learning, training intention, cognitive dissonance, reactions toward programmes and transfer of training), this study adds valuable information to the body of knowledge. The findings also provide new insights to training researchers to examine training variables' predictors in a more general context rather than focusing on the specific context only.

Furthermore, as this study examined cognitive dissonance as one training attitude/variable, the finding makes a novel contribution to both the social psychology and training research fields as well as well-being research. The lack of research on cognitive dissonance in relation to a training programme offers a new perspective for researchers in the training field. These investigators should seriously consider including this variable as one of the predictors in determining training effectiveness. They should also examine what kind of personal and situational aspects might influence cognitive dissonance in the training context. Moreover, as the results showed that cognitive dissonance has a positive association with negative well-being in most

of the studies in this investigation, the findings also contribute to the limited existing knowledge about the association of these variables.

For the primary objective of this study, which to examine whether these training attitudes/variables associated to well-being, with the results revealing that all these variables are significantly correlated with well-being and certain attitudes towards training in specific contexts are significantly associated with well-being even after established factors were controlled for. The combination of both training and well-being research in this study provides new knowledge and perspectives. Researchers in the training field should also consider adding well-being components in their studies even though the training programmes are focused on improving job-related skills and might not be aimed at enhancing trainees' well-being. Even if the objective of the programme is to increase participants' level of well-being, it is worth investigating their attitudes towards the programme and their contribution to well-being.

Furthermore, this research adopted the multi-dimensional approach of the DRIVE model (Mark & Smith, 2008) as the research framework. The advantage of this comprehensive model is that it highlights flexibility in that any organisational and personal variables could be entered as the predictors or outcomes. Hence, the research has implemented the key components of this model (individual differences, work characteristics and health outcomes) and added training attitudes into the model. However, it is evident from all the empirical studies that training attitudes alone are insufficient in explaining well-being outcomes. As shown, after the established factors were controlled for, some of the training attitudes were no longer significant, and the most consistent predictors of positive well-being were personality and commitment. Overall, the research shows that adopting this model results in a good overview of the

effect of individual differences and work characteristics, along with certain attitudes, particularly attitudes towards training, on one's well-being process.

8.5. Summary of research limitations

The current research has some limitations that should be taken into consideration when interpreting the findings. Firstly, the first empirical study used a cross-sectional design to achieve the research objective. Although this approach is efficient and less time-consuming than longitudinal methods, it is limited in establishing any firm conclusions about causal effect relationships.

Secondly, even though we used a longitudinal design to conduct the rest of the studies (Chapters 4 to 7), causal effect relationships still could not be drawn because the same variables (both independent and outcome variables) were not recorded twice due to the fact that questions regarding certain variables were not appropriate to ask at that specific time. For example, items related to training such as learning, transfer intention and cognitive dissonance could not be recorded at Time 1 because the participants needed to undergo the training programme first to be able to respond to these items. In addition, due to practical issues, particularly in the last empirical study, a reduction of items was needed. Thus, these repeated items could not be included at both Time 1 (before the workshops begin) and Time 2 (immediately after the workshops ended).

Thirdly, two out of the five empirical studies in this thesis have a small sample size, with only 95 (Chapter 4) and 80 (Chapter 6) participants managing to complete all phases of the data collection. Due to this, more advanced analyses could not be performed, and in fact, the regression analyses need to be interpreted with caution. Furthermore, in the final study, we were unable to get an equal sample size for all three

groups, which makes it hard for us to compare the associations of independent and dependent variables across the groups.

In addition, most of the items in this research employed single-item measures, specifically questions related to psychosocial characteristics and well-being outcomes. Single-item measures have some advantages over multi-item measures, such as being economically more favourable (Burisch (1984) and reducing non-response rates (Rogelberg & Stanton, 2007). Most importantly, this approach is more practical because some of the studies involve third parties (the trainers), therefore serious consideration of using a brief measure was crucial. Hence, choosing to implement single items was important. However, single-item measures have a few disadvantages, such as low reliability (Wanous et al., 1997) and possibly issues with validity when the items may not adequately represent the content of a complex construct (Cronbach & Meehl, 1955).

Another limitation is the use of self-report measures as the primary data source. Although self-report measures are easy to administer and considered reasonable methods of assessing beliefs, feelings and behaviours, this method is also open to problems such as social desirability bias and the fact that the participants may not have answered the questions completely honestly.

8.6. Recommendations for future research

As mentioned, the design of the current research limits our ability to infer causations, although a longitudinal approach was implemented. Thus, attempts should be made to employ longitudinal designs with repeated measures (assessing both independent and dependent variables at least twice) in future studies to provide better evidence of causal relationships. If the researcher conducted the training programme and there were no issues with time constraints and practicality, this approach is highly recommended.

Although time-consuming, costly and greatly dependent on the cooperation of third parties (e.g. training consultants or trainers), such studies are crucial in expanding our knowledge of the nature and the process of attitudes, particularly in the context of training activities and their relationship to well-being over time.

Next, due to the nature of the research, in which serious consideration of practicality took place, brief and single-item measures were implemented. This approach was important to tackle such issues even though it can have some disadvantages. However, this approach is good for examining the research interest overall, and it can be used as a screening tool. Hence, future research could dig deeper into each association by using a longer version of measurements to get richer data and achieve a more comprehensive result if practicality is not an issue. For example, implementing personality tests that assess all personality domains or types of coping strategies would bring a clearer picture of the research.

In addition, because some of the empirical studies in this thesis, particularly in Chapters 4 and 6, have a relatively small sample size, future studies should design a better approach to selecting participants. Consideration of a larger sample may provide data that can be analysed with greater confidence. A better method of recruitment and advertising the research should be done in a more active approach. For example, the study in Chapter 6 (training in the context of DAP) was only advertised via social media and email, but the researcher should participate and join the workshops and personally ask for participation and hand out the questionnaire to the students. Doing this might help in getting a better sample size. Furthermore, in relationship to the sample size issue, the final study also encountered a similar problem because the study had an unequal sample size across the groups. Thus, it would be better to cooperate with more trainers or choose more intervention workshops, if time permits. These

efforts will help get more participants and most importantly, an equal sample size for all groups, so a comparison between groups could be made.

Finally, we strongly suggest exploring different types of training attitudes and their relationship to well-being. Since the research only investigated the influence of four training effectiveness predictors—motivation to learn, learning, transfer intention and cognitive dissonance—and two additional training variables—reaction towards the programmes and transfer of training—on well-being, it would be useful to explore other variables related to training effectiveness or transfer or training such as self-efficacy, cognitive ability, other types of motivation, perceived utility of training, realistic training environment and transfer climate (Baldwin et al., 2009; Grossman & Salas, 2011). It might be that different types of training attitudes or variables would show a better association with well-being. In addition, it would be useful if the mediation and moderation path could be investigated, either with existing training attitudes, new training attitudes or any related variables.

8.7. Practical recommendations

The findings of this research have provided valuable insights for the practitioner, especially those in training or educational settings such as trainers and teachers (or lecturers). Because this study integrates training effectiveness predictors into well-being research, the findings might be useful in increasing the successfulness of training programmes and at the same time help improve trainees' level of well-being.

Results related to the association between training attitudes and well-being have shown that positive training attitudes, which include motivation to learn, learning, and transfer intention, are positively associated with positive well-being after established factors were controlled for. This positive relationship, particularly in specific contexts as shown in Chapters 5 and 6 (PDMs versus ATs and DAP),

demonstrated that when participants showed a high motivation to learn the programme's content, perceived that their knowledge and skills related to the programme's content were improved, and had high intention to implement the new knowledge and skills, they are more prone to experience positive well-being. In addition, as shown in Chapters 5, 6 and 7, positive reactions towards the programmes were positively associated with positive well-being, suggesting that participants who perceived that the programmes were effective and useful also had a good level of well-being.

Therefore, these findings have a practical use, whereby trainers (or teachers) should encourage their trainees (or students) to maintain their high motivation to learn new things, persuade them to always improve their knowledge and skills, and assist them in promoting an intention to implement their new knowledge and skills. Trainers could also make their training programmes more effective, engaging and relatable for the trainees (or students). This active approach by trainers or teachers could not only increase the transferability of training programmes, but also might be beneficial to trainees through enriching their well-being, even though the training programmes' content may not be directly aimed at increasing their level of well-being.

Next, findings from Chapters 3 and 5 have demonstrated that negative training attitudes, which consist of cognitive dissonance, were positively associated with negative well-being, even after controlling for established factors. This result suggests that participants who experience cognitive dissonance, either in the context of various training activities (skills training, health and safety or human resources training—Chapter 3) or specific training programmes (e.g. PDMs—Chapter 5), are more prone to encounter negative well-being (stress, anxiety and depression). Participants experience cognitive dissonance when they feel confused and uncomfortable when

transferring the newly acquired knowledge and skills from training programmes to work settings or their daily lives. Hence, we highly recommend that practitioners (trainers or teachers) counter this problem by encouraging the trainees or students to be more confident in applying the new knowledge and skills outside of the training programmes and convincing them that the new knowledge/skills are better than their previous knowledge/skills. Again, this active approach by the trainer or teacher not only could increase the transferability of training programmes, but it could also be helpful in reducing trainees' negative well-being.

Some of the recommendations and guidelines to increase trainees' positive training attitudes (motivation to learn, learning, transfer intention and positive reaction towards the programme) and to decrease negative training attitudes (cognitive dissonance) involve implementing pre- and post-training interventions/activities. For example, before delivering training content, a trainer could take some time (up to 20 or 30 minutes) to do a pre-training intervention by showing some videos or briefing on the importance of the training content. Other motivational information might include testimonies from previous trainees regarding the effectiveness of the training programmes and what to expect during and after the programmes. The trainer might also highlight the importance of being motivated to learn and the benefits of knowledge acquisition. Pre-training intervention not only increases trainees' motivation to learn (Weissbein, Huan, Ford & Schmidt, 2011) but also facilitates their learning process (Mesmer-Magnus & Viswesvaran, 2010).

Additionally, post-training intervention/activity could increase trainees' level of transfer intention and reduce cognitive dissonance. For example, after conducting a training programme, the trainer could administer a quick session on relapse prevention to help trainees self-manage any obstacle that they might encounter when transferring

the training content to the work setting (Blume et al. 2010; Burke & Baldwin, 1999). This self-management technique has seven steps that mainly aim to aid trainees in transferring their newly acquired knowledge and skills (Marx, 1986), better preparing them to apply the new knowledge and skills. Some of the steps can be emphasised, for example, asking trainees to learn 14 specific transfer strategies (both cognitive and behavioural), explicating the advantages and disadvantages of applying new skills and creating coping skills. These steps indirectly help trainees to set a better level of transfer intention and reduce cognitive dissonance in the long run.

The research also revealed that various psychosocial characteristics were stronger predictors of well-being than attitudes towards training. The most consistent psychosocial aspects that were associated with positive well-being were positive personality and commitment (see Chapters 3, 4, 5 and 7) and positive coping (Chapters 5, 6 and 7). In addition, OCB was positively associated with positive well-being (Chapter 7), and negative work characteristics were positively associated with negative well-being (Chapter 3). These results could be practically used and implemented not only with the help of trainers and teachers, but also to a bigger audience. Because the psychosocial characteristics were asked about in a general context, unlike the four attitudes (motivation to learn, learning, transfer intention and cognitive dissonance) that were specifically measured in the context of training programmes, the findings might be beneficial to the self, school and organisation.

These characteristics, particularly the positive aspects, could be improved and the negative aspects could be reduced, so that one can achieve a better level of positive well-being. These could be obtained if one knows the importance of the positive characteristics and always upgrades to a better self, such as slowly developing a more positive personality, shaping a high commitment towards any responsibility, and

choosing better coping strategies. Not only that, organisations could also provide good working/studying environments, equip them with a positive work climate, and inspire their workers/students to always develop themselves so that good psychosocial aspects could be enhanced.

8.8. Concluding remarks

In conclusion, this research gives a new perspective on the training field. Future research could also integrate well-being components, since we found some evidence which demonstrated that positive attitudes towards training (which are among the predictors of training effectiveness) were positively associated with positive well-being, even after established factors were controlled for. However, more research is needed to confirm this association because mixed findings emerged from this study. In addition, a few of the studies in this research demonstrated that certain psychosocial characteristics, particularly positive personality and commitment, were stronger predictors of well-being than training attitudes. Furthermore, particular psychosocial aspects can predict both positive and negative training attitudes. Explanations of each association and research limitations were also presented. The study's contributions to knowledge and practical recommendation were highlighted, as were directions for subsequent research endeavours. Using a traditional method in various contexts, the research was able to answer each research question and emphasised the flexibility, usefulness and comprehensive framework of the DRIVE model.

References

Abbott, J. A., Klein, B., Hamilton, C., & Rosenthal, A. (2009). The Impact of Online Resilience Training for Sales Managers on Wellbeing and Work Performance. *E-Journal of Applied Psychology*, *5*(1), 89-95.

Åberg, P. (2016). Nonformal learning and well-being among older adults: Links between participation in Swedish study circles, feelings of well-being and social aspects of learning. *Educational Gerontology, 42*(6), 411-422.

Abraham, R. (1998). Emotional dissonance in organizations: Antecedents, consequences, and moderators. *Genetic, social, and general psychology monographs, 124*(2), 229.

Aguinis, H., & Kraiger, K. (2009). Benefits of training and development for individuals and teams, organizations, and society. *Annual review of psychology, 60*, 451-474.

Ahmad, M. I., Firman, K. P., Smith, H. P., & Smith, A. P. (2018). Psychological Contract Fulfilment and Well-Being. *Advances in Social Sciences Research Journal, 5*(12).

Akgunduz, Y., Dalgic, A., & Kale, A. (2016). The effects of stress and managers' behaviour on the job satisfaction and organisational citizenship behaviour of hotel employees. *Turizam: međunarodni znanstveno-stručni časopis, 64*(1), 41-62.

Akhtar, M., & Kroener-Herwig, B. (2017). Coping Styles and Socio-demographic Variables as Predictors of Psychological Well-Being among International Students Belonging to Different Cultures. *Current Psychology*, 1-9.

Al-Eisa, A. S., Furayyan, M. A., & Alhemoud, A. M. (2009). An empirical examination of the effects of self-efficacy, supervisor support and motivation to learn on transfer intention. *Management decision*, *47*(8), 1221-1244.

Alshareef, S. J., Alzahrani, A., & Farahat, F. M. (2019). Lifestyle habits and well-being among primary health physicians in western Saudi Arabia. *Journal of Public Health, 27*(1), 57-62.

Al-Swidi, A., & Al Yahya, M. (2017). Training transfer intention and training effectiveness: Assessing the gender differences using multi-group structural equation modelling approach. *International Journal of Organizational Analysis, 25*(5), 839-860.

Anvari, R., Amin, S. M., Ismail, W. K. W., Ahmad, U. N. U., & Seliman, S. (2011). Mediating effects of affective organizational commitment and psychological contract in the relationship between strategic training practices and knowledge sharing. *African Journal of Business Management, 5*(6), 2189-2202.

Arenas, A., Giorgi, G., Montani, F., Mancuso, S., Perez, J. F., Mucci, N., & Arcangeli, G. (2015). Workplace bullying in a sample of Italian and Spanish employees and its relationship with job satisfaction, and psychological well-being. *Frontiers in psychology, 6*, 1912.

Argyle, M. (1999). Causes and correlates of happiness. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), Well-being: The foundations of hedonic psychology (pp. 353-373). New York: Russell Sage Foundation.

Arsenio, W. F., & Loria, S. (2014). Coping with negative emotions: Connections with adolescents' academic performance and stress. *The Journal of genetic psychology, 175*(1), 76-90.

Arshad, S., & Rafique, R. (2016). Personality and Creativity as Predictors of Psychological Well-being in College Students. *Pakistan Journal of Psychological Research, 31*(1), 139.

Ashdown, D. M., & Bernard, M. E. (2012). Can explicit instruction in social and emotional learning skills benefit the social-emotional development, well-being, and academic achievement of young children? *Early Childhood Education Journal, 39*(6), 397-405.

Augusto Landa, J. M., Martos, M. P., & Lopez-Zafra, E. (2010). Emotional intelligence and personality traits as predictors of psychological well-being in Spanish undergraduates. *Social Behavior and Personality: an international journal, 38*(6), 783-793.

Bachik, A. K., & Kitzman, M. J. (2020). The case for including personal development in undergraduate psychology curricula. *Scholarship of Teaching and Learning in Psychology.* Advance online publication. https://doi.org/10.1037/stl0000153

Baer, R. A. (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical psychology: Science and practice, 10*(2), 125-143.

Bailey, T. H., & Phillips, L. J. (2016). The influence of motivation and adaptation on students' subjective well-being, meaning in life and academic performance. *Higher education research & development, 35*(2), 201-216.

Baker, S. R. (2003). A prospective longitudinal investigation of social problem-solving appraisals on adjustment to university, stress, health, and academic motivation and performance. *Personality and Individual Differences*, *35*(3), 569-591.

Baker, S. R. (2004). Intrinsic, extrinsic, and amotivational orientations: Their role in university adjustment, stress, well-being, and subsequent academic performance. *Current Psychology, 23*(3), 189-202.

Baldwin, T. T., & Ford, J. K. (1988). Transfer of training: A review and directions for future research. *Personnel psychology, 41*(1), 63-105.

Baldwin, T. T., Ford, J. K., & Blume, B. D. (2009). Transfer of training 1988–2008: an updated review and agenda for future research. *International review of industrial and organizational psychology, 24*(1), 41-70.

Baldwin, T. T., Magjuka, R. J., & Loher, B. T. (1991). The perils of participation: Effects of choice of training on trainee motivation and learning. *Personnel psychology*, *44*(1), 51-65.

Barendregt, C. S., Van der Laan, A. M., Bongers, I. L., & Van Nieuwenhuizen, C. (2015). Adolescents in secure residential care: the role of active and passive coping on general well-being and self-esteem. *European child & adolescent psychiatry, 24*(7), 845-854.

Bashshur, M. R., Hernández, A., & González-Romá, V. (2011). When managers and their teams disagree: a longitudinal look at the consequences of differences in perceptions of organizational support. *Journal of Applied Psychology*, *96*(3), 558-573.

Bates, R. A., Holton, E. F. III, Seyler, D. L., Carvalho, M. A. (2000), The role of interpersonal factors in the application of computer-based training in an industrial setting, *Human Resource Development International*, *3*(1), 19-42.

Becker, C. B., Wilson, C., Williams, A., Kelly, M., McDaniel, L., & Elmquist, J. (2010). Peer-facilitated cognitive dissonance versus healthy weight eating disorders prevention: A randomized comparison. *Body image, 7*(4), 280-288.

Bélanger-Gravel, A., Godin, G., & Amireault, S. (2013). A meta-analytic review of the effect of implementation intentions on physical activity. *Health psychology review, 7*(1), 23-54.

Bernaus, M., & Gardner, R. C. (2008). Teacher motivation strategies, student perceptions, student motivation, and English achievement. *The Modern*

Language Journal, 92(3), 387-401.

Bernerth, J. B., Walker, H. J., & Harris, S. G. (2016). Rethinking the benefits and pitfalls of leader–member exchange: A reciprocity versus self-protection perspective. *Human Relations, 69*(3), 661-684.

Bijstra, J. O., & Jackson, S. (1998). Social skills training with early adolescents: Effects on social skills, well-being, self-esteem and coping. *European Journal of Psychology of Education, 13*(4), 569-583.

Billings, A. G., & Moos, R. H. (1984). Coping, stress, and social resources among adults with unipolar depression. *Journal of personality and social psychology, 46*(4), 877-891.

Blume, B. D., Ford, J. K., Baldwin, T. T., & Huang, J. L. (2010). Transfer of training: A meta-analytic review. *Journal of management, 36*(4), 1065-1105.

Bojanowska, A., & Piotrowski, K. (2018). Two levels of personality: Temperament and values and their effects on hedonic and eudaimonic well-being. *Current Psychology*, 1-9.

Bolino, M. C., & Turnley, W. H. (2005). The personal costs of citizenship behavior: the relationship between individual initiative and role overload, job stress, and work-family conflict. *Journal of Applied Psychology, 90*(4), 740-748.

Bolino, M. C., Klotz, A. C., Turnley, W. H., & Harvey, J. (2013). Exploring the dark side of organizational citizenship behavior. *Journal of Organizational Behavior, 34*(4), 542-559.

Bolino, M. C., Turnley, W. H., & Bloodgood, J. M. (2002). Citizenship behavior and the creation of social capital in organizations. *Academy of management review, 27*(4), 505-522.

Bolino, M. C., Turnley, W. H., & Niehoff, B. P. (2004). The other side of the story: Reexamining prevailing assumptions about organizational citizenship behavior. *Human Resource Management Review, 14*(2), 229-246.

Bond, L., Lusher, D., Williams, I., & Butler, H. (2014). Friends or foes? Relational dissonance and adolescent psychological wellbeing. *PloS one, 9*(2), 1-10.

Boniwell, I., Osin, E., & Sircova, A. (2014). Introducing time perspective coaching: A new approach to improve time management and enhance well-being. *International Journal of Evidence Based Coaching and Mentoring, 12*(2), 24-40.

Boyd, N. M., & Nowell, B. (2014). *Testing a Theory of Sense of Community and*

Community Responsibility in Non-Profit Organizations. Paper presented at the Academy of Management Proceedings.

Boyd, N. M., & Nowell, B. (2017). Testing a theory of sense of community and community responsibility in organizations: An empirical assessment of predictive capacity on employee well-being and organizational citizenship. *Journal of Community Psychology, 45*(2), 210-229.

Boyraz, G., Granda, R., Baker, C. N., Tidwell, L. L., & Waits, J. B. (2016). Posttraumatic stress, effort regulation, and academic outcomes among college students: A longitudinal study. *Journal of Counseling Psychology, 63*(4), 475-486.

Bozanoğlu, İ., & Sapancı, A. (2015). The relationships between the big five personality traits and academic motivation levels of Turkish university students. *The International Journal of Human and Behavioral Science, 1*(1), 1-7.

Brajša-Žganec, A., Ivanović, D., & Kaliterna Lipovčan, L. (2011). Personality traits and social desirability as predictors of subjective well-being. *Psihologijske teme, 20*(2), 261-276.

Brennan, J., McGrady, A., Lynch, D. J., Schaefer, P., & Whearty, K. (2016). A stress management program for higher risk medical students: Preliminary findings. *Applied psychophysiology and biofeedback, 41*(3), 301-305.

Bridger, R. S., Kilminster, S., & Slaven, G. (2006). Occupational stress and strain in the naval service: 1999 and 2004. *Occupational Medicine, 57*(2), 92-97.

Brief, A. P., & Motowidlo, S. J. (1986). Prosocial organizational behaviors. *Academy of management Review, 11*(4), 710-725.

Brunetto, Y., Teo, S. T., Shacklock, K., & Farr-Wharton, R. (2012). Emotional intelligence, job satisfaction, well-being and engagement: explaining organisational commitment and turnover intentions in policing. *Human Resource Management Journal, 22*(4), 428-441.

Bryant, C., Bei, B., Gilson, K.-M., Komiti, A., Jackson, H., & Judd, F. (2016). Antecedents of Attitudes to Aging: A Study of the Roles of Personality and Well-being. *The Gerontologist, 56*(2), 256-265.

Budden, J. S., & Sagarin, B. J. (2007). Implementation intentions, occupational stress, and the exercise intention-behavior relationship. *Journal of occupational health psychology, 12*(4), 391-401.

Burisch, M. (1984). Approaches to personality inventory construction: a comparison of merits. *American Psychologist, 39*(3), 214-227.

Burke, L. A., & Hutchins, H. M. (2007). Training transfer: An integrative literature review. *Human resource development review, 6*(3), 263-296.

Burke, L. A., & Baldwin, T. T. (1999). Workforce training transfer: A study of the effect of relapse prevention training and transfer climate. *Human Resource Management, 38*(3), 227-242.

Burns, R. A., & Machin, M. A. (2010). Identifying gender differences in the independent effects of personality and psychological well-being on two broad affect components of subjective well-being. *Personality and Individual Differences, 48*(1), 22-27.

Burris, C. T., Harmon-Jones, E., & Tarpley, W. R. (1997). " By Faith Alone": Religious Agitation and Cognitive Dissonance. *Basic and Applied Social Psychology, 19*(1), 17-31.

Burton, K. D., Lydon, J. E., D'alessandro, D. U., & Koestner, R. (2006). The differential effects of intrinsic and identified motivation on well-being and performance: prospective, experimental, and implicit approaches to self-determination theory. *Journal of personality and social psychology, 91*(4), 750-762.

Bye, D., Pushkar, D., & Conway, M. (2007). Motivation, interest, and positive affect in traditional and nontraditional undergraduate students. *Adult education quarterly, 57*(2), 141-158.

Calnan, M., Wadsworth, E., May, M., Smith, A., & Wainwright, D. (2004). Job strain, effort-reward imbalance, and stress at work: competing or complementary models? *Scandinavian journal of public health, 32*(2), 84-93.

Capasso, R., Zurlo, M. C., & Smith, A. P. (2016). Ethnicity and work-related stress in Eastern European care workers for the elderly: an application of a proposed multi-dimensional model. *Diversity and Equality in Health and Care, 13*(2), 197-205.

Capasso, R., Zurlo, M. C., & Smith, A. P. (2018). Ethnicity, work-related stress and subjective reports of health by migrant workers: a multi-dimensional model. *Ethnicity & health, 23*(2), 174-193.

Carmel, S., Raveis, V. H., O'Rourke, N., & Tovel, H. (2017). Health, coping and subjective well-being: results of a longitudinal study of elderly Israelis. *Aging*

& mental health, 21(6), 616-623.

Carnicer, J. G., & Calderón, C. (2014). Empathy and Coping Strategies as Predictors of Well-being in Spanish University Students. *Electronic Journal of Research in Educational Psychology, 12*(1), 129-146.

Carvalho, V. S., & Chambel, M. J. (2016). Work-to-family enrichment and conflict profiles: Job characteristics and employees' well-being. *The Spanish journal of psychology, 19*. E65.

Cavanagh, K. et al. 2013. A randomised controlled trial of a brief online mindfulness-based intervention. *Behav Res Ther* 51(9), pp. 573-578.

Cera, R., Cristini, C., & Antonietti, A. (2018). Conceptions of Learning, Well-being, and Creativity in Older Adults. *Journal of Educational, Cultural and Psychological Studies (ECPS Journal)* (18), 241-273.

Chambel, M. J., & Curral, L. (2005). Stress in academic life: work characteristics as predictors of student well-being and performance. *Applied psychology, 54*(1), 135-147.

Chambel, M. J., Carvalho, V. S., Cesário, F., & Lopes, S. (2017). The work-to-life conflict mediation between job characteristics and well-being at work: Part-time vs full-time employees. *Career Development International, 22*(2), 142-164.

Chang, E. C., Yi, S., Liu, J., Kamble, S. V., Zhang, Y., Shi, B., . . . Xu, J. (2019). Coping Behaviors as Predictors of Hedonic Well-Being in Asian Indians: Does Being Optimistic Still Make a Difference? *Journal of Happiness Studies*, 1-16.

Cheng, C., Cheung, M. W. L., & Montasem, A. (2016). Explaining Differences in Subjective Well-Being Across 33 Nations Using Multilevel Models: Universal Personality, Cultural Relativity, and National Income. *Journal of personality, 84*(1), 46-58.

Cheung, F., & Tang, C. (2010). The influence of emotional dissonance on subjective health and job satisfaction: Testing the stress–strain–outcome model. *Journal of Applied Social Psychology, 40*(12), 3192-3217.

Chinaveh, M. (2013). The effectiveness of multiple stress management intervention on the level of stress, and coping responses among Iranian students. *Procedia-Social and Behavioral Sciences, 84*, 593-600.

Chua, L. W., Milfont, T. L., & Jose, P. E. (2015). Coping skills help explain how future-oriented adolescents accrue greater well-being over time. *Journal of*

youth and adolescence, 44(11), 2028-2041.

Cilliers, F., & Flotman, A.-P. (2016). The psychological well-being manifesting among master's students in Industrial and Organisational Psychology. *SA Journal of Industrial Psychology, 42*(1), 1-11.

Clausen, T., Christensen, K. B., & Nielsen, K. (2015). Does Group-Level Commitment Predict Employee Well-Being? a Prospective Analysis. *Journal of occupational and environmental medicine, 57*(11), 1141-1146.

Cohen, S., Doyle, W. J., Turner, R. B., Alper, C. M., & Skoner, D. P. (2003). Emotional style and susceptibility to the common cold. *Psychosomatic medicine, 65*(4), 652-657.

Cokley, K. (2003). What do we know about the motivation of African American students? Challenging the" anti-intellectual" myth. *Harvard educational review, 73*(4), 524-558.

Colquitt, J. A., LePine, J. A., & Noe, R. A. (2000). Toward an integrative theory of training motivation: a meta-analytic path analysis of 20 years of research. *Journal of applied psychology, 85*(5), 678.

Conley, J. J. (1985). Longitudinal stability of personality traits: A multitrait–multimethod–multioccasion analysis. *Journal of personality and social psychology, 49*(5), 1266-1282.

Conway, J. M., Rogelberg, S. G., & Pitts, V. E. (2009). Workplace helping: Interactive effects of personality and momentary positive affect. *Human Performance, 22*(4), 321-339.

Cooper, J. (2011). Cognitive dissonance theory. *Handbook of theories of social psychology, 1*, 377-398.

Corr, P. J., & Matthews, G. (2009). *The Cambridge handbook of personality psychology*: Cambridge University Press Cambridge.

Cox, T. & Griffiths, A. (1995). The nature and measurement of work stress: theory and practice. In J.R. Wilson & E.N. Corlett (Eds.), *Evaluation of human work: a practical ergonomics methodology,* London: Taylor & Francis.

Cox, T. (1987). Stress, coping and problem solving. *Work & Stress, 1*(1), 5-14.

Cox, T., & Ferguson, E. (1991). Individual Differences, Stress and Coping. In C.L. Cooper, & R. Payne (Eds.). *Personality and Stress: Individual Differences in the Stress Process.* England: John Wiley & Sons.

Credé, M., & Phillips, L. A. (2011). A meta-analytic review of the Motivated

Strategies for Learning Questionnaire. *Learning and individual differences, 21*(4), 337-346.

Creed, P. A., & Evans, B. M. (2002). Personality, well-being and deprivation theory. *Personality and Individual Differences, 33*(7), 1045-1054.

Creed, P. A., Hicks, R. E., & Machin, M. (1998). Behavioural plasticity and mental health outcomes for long-term unemployed attending occupational training programmes. *Journal of Occupational and Organizational Psychology, 71*(2), 171-191.

Cronqvist, A., Theorell, T., Burns, T., & Lützén, K. (2001). Dissonant imperatives in nursing: a conceptualization of stress in intensive care in Sweden. *Intensive and Critical Care Nursing, 17*(4), 228-236.

Cunningham, J., & Hillier, E. (2013). Informal learning in the workplace: key activities and processes. *Education+ Training, 55*(1), 37-51.

Curado, C., Henriques, P. L., & Ribeiro, S. (2015). Voluntary or mandatory enrolment in training and the motivation to transfer training. *International Journal of Training and Development, 19*(2), 98-109.

D'lima, D. M., Murray, E. J., & Brett, S. J. (2018). Perceptions of risk and safety in the ICU: a qualitative study of cognitive processes relating to staffing. *Critical care medicine, 46*(1), 60.

Dalton, E. D., & Hammen, C. L. (2018). Independent and relative effects of stress, depressive symptoms, and affect on college students' daily health behaviors. *Journal of behavioral medicine*, 1-12.

Danner, D. D., Snowdon, D. A., & Friesen, W. V. (2001). Positive emotions in early life and longevity: findings from the nun study. *Journal of personality and social psychology, 80*(5), 804-813.

De France, K., & Hollenstein, T. (2019). Emotion regulation and relations to well-being across the lifespan. *Developmental psychology, 55*(8), 1768-1774.

de Jonge, J., Bosma, H., Peter, R., & Siegrist, J. (2000). Job strain, effortreward imbalance and employee well-being: a large-scale crosssectional study. *Social Science and Medicine, 50*, 1317-1327.

De Lange, A. H., Taris, T. W., Jansen, P., Kompier, M. A., Houtman, I. L., & Bongers, P. M. (2010). On the relationships among work characteristics and learning-related behavior: Does age matter? *Journal of Organizational Behavior, 31*(7), 925-950.

Deci, E. L., & Ryan, R. M. (2011). Self-determination theory. *Handbook of theories of social psychology, 1*(2011), 416-433.

Deci. (1980). Self-determination theory: When mind mediates behavior. *Journal of Mind and Behavior, 1*(1), 33-43.

Deci. (1983). The basis of self-determination: Intrinsic motivation and integrated internalizations. *Academic Psychology Bulletin, 5*(1), 21-29.

Dellacherie, D., Roy, M., Hugueville, L., Peretz, I., & Samson, S. (2011). The effect of musical experience on emotional self-reports and psychophysiological responses to dissonance. *Psychophysiology, 48*(3), 337-349.

Dench, S., & Regan, J. (2000). *Learning in later life: Motivation and impact*: Great Britain, Department for Education and Employment.

Denovan, A., & Macaskill, A. (2017). Stress and subjective well-being among first year UK undergraduate students. *Journal of Happiness Studies, 18*(2), 505-525.

Devine, P. G., Tauer, J. M., Barron, K. E., Elliot, A. J., & Vance, K. M. (1999). Moving beyond attitude change in the study of dissonance-related processes. *Cognitive dissonance: Progress on a pivotal theory in social psychology*, 297-323.

Dewe, P., O'Driscoll, M., & Cooper, C. (2010). *Coping with work stress: a review and critique*. Chichester: WileyBlackwell.

Di Domenico, S. I., & Fournier, M. A. (2015). Able, ready, and willing: Examining the additive and interactive effects of intelligence, conscientiousness, and autonomous motivation on undergraduate academic performance. *Learning and Individual Differences, 40*, 156-162.

Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American psychologist, 55*(1), 34.

Diener, E. (2009). Subjective well-being. In *The science of well-being* (pp. 11-58): Springer.

Diener. (1984). Subjective well-being. *Psychological bulletin., 95*(3), 542.

Dineen, B. R., Ash, S. R., & Noe, R. A. (2002). A web of applicant attraction: Person-organization fit in the context of Web-based recruitment. *Journal of Applied Psychology, 87*(4), 723.

Doest, L., & Jonge, J. (2006). Testing causal models of job characteristics and employee well-being: A replication study using cross-lagged structural

equation modelling. *Journal of Occupational and Organizational Psychology, 79*(3), 499-507.

Doorn, Y., Ruysseveldt, J., Dam, K., Mistiaen, W., & Nikolova, I. (2016). Understanding well-being and learning of Nigerian nurses: a job demand control support model approach. *Journal of nursing management, 24*(7), 915-922.

Drake, K. L. (2010). *Psychology graduate student well-being: The relationship between stress, coping, and health outcomes,* (Unpublished doctoral dissertation). University of Cincinnati, Ohio, United States.

Elangovan, A., & Karakowsky, L. (1999). The role of trainee and environmental factors in transfer of training: An exploratory framework. *Leadership & Organization Development Journal, 20*(5), 268-276.

Eley, D. S., Leung, J., Hong, B. A., Cloninger, K. M., & Cloninger, C. R. (2016). Identifying the dominant personality profiles in medical students: Implications for their well-being and resilience. *PloS one, 11*(8), e0160028.

Elliott, T. R., & Gramling, S. E. (1990). Personal assertiveness and the effects of social support among college students. *Journal of counseling psychology, 37*(4), 427.

Elmelid, A., Stickley, A., Lindblad, F., Schwab-Stone, M., Henrich, C. C., & Ruchkin, V. (2015). Depressive symptoms, anxiety and academic motivation in youth: Do schools and families make a difference? *Journal of adolescence, 45*, 174-182.

Elo, A.-L., Ervasti, J., Kuosma, E., & Mattila, P. (2008). Evaluation of an organizational stress management program in a municipal public works organization. *Journal of occupational health psychology, 13*(1), 10.

Emadpoor, L., Lavasani, M. G., & Shahcheraghi, S. M. (2016). Relationship between perceived social support and psychological well-being among students based on mediating role of academic motivation. *International Journal of Mental Health and Addiction, 14*(3), 284-290.

England, B. J., Brigati, J. R., & Schussler, E. E. (2017). Student anxiety in introductory biology classrooms: Perceptions about active learning and persistence in the major. *PloS one, 12*(8), e0182506.

Erturan-Ilker, G. (2014). Psychological well-being and motivation in a Turkish physical education context. *Educational Psychology in Practice, 30*(4), 365-379.

Essau, C. A., Leung, P. W., Conradt, J., Cheng, H., & Wong, T. (2008). Anxiety symptoms in Chinese and German adolescents: Their relationship with early learning experiences, perfectionism, and learning motivation. *Depression and Anxiety, 25*(9), 801-810.

Etxeberria, I., Etxebarria, I., & Urdaneta, E. (2018). Subjective well-being among the oldest old: The role of personality traits. *Personality and Individual Differences*, 2019-216.

Evans, P., Martin, A. J., & Ivcevic, Z. (2018). Personality, coping, and school well-being: an investigation of high school students. *Social Psychology of Education, 21*(5), 1061-1080.

Facteau, J. D., Dobbins, G. H., Russell, J. E., Ladd, R. T., & Kudisch, J. D. (1995). The influence of general perceptions of the training environment on pretraining motivation and perceived training transfer. *Journal of management, 21*(1), 1-25.

Fan, J., & Smith, A. P. (2017). *The impact of workload and fatigue on performance.* Paper presented at the International Symposium on Human Mental Workload: Models and Applications.

Fan, J., & Smith, A. P. (2018). The mediating effect of fatigue on work-life balance and positive well-being in railway staff. *Open Journal of Social Sciences, 6*(06), 1.

Felstead, A., Gallie, D., Green, F., & Inanc, H. (2015). Fits, misfits and interactions: Learning at work, job satisfaction and job-related well-being. *Human Resource Management Journal, 25*(3), 294-310.

Festinger, L. (1962). *A theory of cognitive dissonance* (Vol. 2): Stanford university press.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). London: Sage.

Field, J. (2009). Good for your soul? Adult learning and mental well-being. *International Journal of Lifelong Education, 28*(2), 175-191.

Fisher, R. A. (1956). *Statistical methods, experimental design, and scientific inference*. New York: Hafner.

Fitzpatrick, C., Conlon, A., Cleary, D., Power, M., King, F., & Guerin, S. (2013). Enhancing the mental health promotion component of a health and personal programme in Irish schools. *Advances in School Mental Health Promotion,* 6

(2), 122-138.

Folkman, S., & Lazarus, R. S. (1985). If it changes it must be a process: study of emotion and coping during three stages of a college examination. *Journal of personality and social psychology, 48*(1), 150.

Folkman, S., & Lazarus, R. S. (1980). An Analysis of coping in a Middle Aged Community sample. *Journal of Health and Social Behaviour, 21*, 219-239.

Fontanari, J. F., Bonniot-Cabanac, M.-C., Cabanac, M., & Perlovsky, L. I. (2012). A structural model of emotions of cognitive dissonances. *Neural Networks, 32*, 57-64.

Fortes-Ferreira, L., Peiro, J. M., Gonzalez-Moralez, G., & Martin, I. (2006). Work-related stress and well-being: the roles of direct action coping and palliative coping. *Scandinavian Journal of Psychology, 47*(4), 293-302.

Foster, J. D., & Misra, T. A. (2013). It did not mean anything (about me) Cognitive dissonance theory and the cognitive and affective consequences of romantic infidelity. *Journal of Social and Personal Relationships, 30*(7), 835-857.

Fredrickson, B. L., Mancuso, R. A., Branigan, C., & Tugade, M. M. (2000). The undoing effect of positive emotions. *Motivation and emotion, 24*(4), 237-258.

Freire, C., Ferradás, M. D. M., Valle, A., Núñez, J. C., & Vallejo, G. (2016). Profiles of psychological well-being and coping strategies among university students. *Frontiers in psychology, 7*, 1554.

Friedman, E. M., Ruini, C., Foy, C. R., Jaros, L., Love, G., & Ryff, C. D. (2019) "Lighten UP! A Community-Based Group Intervention to Promote Eudaimonic Well-Being in Older Adults: A Multi-Site Replication with 6 Month Follow-Up" *Clinical Gerontologist, 42*(4), pp.387-397.

Friedman, E. M., Ruini, C., Foy, R., Jaros, L. V., Sampson, H., & Ryff, C. D. (2017). Lighten UP! A community-based group intervention to promote psychological wellbeing in older adults. *Aging & Mental Health, 21*(2), 199–205.

Friedman, S., & Ronen, S. (2015). The effect of implementation intentions on transfer of training. *European Journal of Social Psychology, 45*(4), 409-416.

Froiland, J. M., & Worrell, F. C. (2016). Intrinsic motivation, learning goals, engagement, and achievement in a diverse high school. *Psychology in the Schools, 53*(3), 321-336.

Frydenberg, E. (2008). *Adolescent coping: Advances in theory, research and practice*: Routledge.

Frydenberg, E., & Lewis, R. (2000). Teaching Coping to adolescents: when and to whom? *American Educational Research Journal, 37*(3), 727-745.

Gallagher, S., O'Riordan, A., McMahon, G., & Creaven, A.-M. (2018). Evaluating personality as a moderator of the association between life events stress and cardiovascular reactivity to acute stress. *International Journal of Psychophysiology, 126*, 52-59.

Galvin, J., & Smith, A. P. (2015). Stress in UK mental health training: a multi-dimensional comparison study. *British Journal of Education, Society & Behavioural Science, 9*(3), 161-175.

Gandy, W. M., Coberley, C., Pope, J. E., & Rula, E. Y. (2016). Comparison of the utility of two assessments for explaining and predicting productivity change: well-being versus an HRA. *Journal of occupational and environmental medicine, 58*(1), 69-75.

Garavan, T. N. (1997). Training, development, education and learning: different or the same? *Journal of European industrial training, 21*(2), 39-50.

Gardner, B., Rose, J., Mason, O., Tyler, P., & Cushway, D. (2005). Cognitive therapy and behavioural coping in the management of work-related stress: An intervention study. *Work & Stress, 19*(2), 137-152.

Gardner, D. K., & Helmes, E. (1999). Locus of Control and Self-Directed Learning as Predictors of Wellbeing in the Elderly. *Australian Psychologist, 34*(2), 99-103.

Garett, R., Liu, S., & Young, S. D. (2017). A longitudinal analysis of stress among incoming college freshmen. *Journal of American college health, 65*(5), 331-338.

Gegenfurtner, A., Könings, K. D., Kosmajac, N., & Gebhardt, M. (2016). Voluntary or mandatory training participation as a moderator in the relationship between goal orientations and transfer of training. *International Journal of Training and Development, 20*(4), 290-301.

George, D. R., Dellasega, C., Whitehead, M. M., & Bordon, A. (2013). Facebook-based stress management resources for first-year medical students: A multi-method evaluation. *Computers in Human Behavior, 29*(3), 559-562.

Gijbels, D., Raemdonck, I., Vervecken, D., & Van Herck, J. (2012). Understanding work-related learning: the case of ICT workers. *Journal of Workplace Learning, 24*(6), 416-429.

Glazer, S., & Kruse, B. (2008). The role of organizational commitment in occupational

stress models. *International Journal of Stress Management, 15*(4), 329.

Glomb, T. M., Bhave, D. P., Miner, A. G., & Wall, M. (2011). Doing good, feeling good: Examining the role of organizational citizenship behaviors in changing mood. *Personnel Psychology, 64*(1), 191-223.

Gollwitzer, P. M. (1999). Implementation intentions: strong effects of simple plans. *American psychologist, 54*(7), 493.

Gore, J. S., & Rogers, M. J. (2010). Why do I study? The moderating effect of attachment style on academic motivation. *The Journal of Social Psychology, 150*(5), 560-578.

Gottfried, A. E. (1982). Relationships between academic intrinsic motivation and anxiety in children and young adolescents. *Journal of School Psychology, 20*(3), 205-215.

Green, S. B. (1991). How many subjects does it take to do a regression analysis? *Multivariate behavioral research, 26*(3), 499-510.

Gross, R. (2015). *Psychology: The science of mind and behaviour 7th edition*: Hodder Education.

Grossman, R., & Salas, E. (2011). The transfer of training: what really matters. *International Journal of Training and Development, 15*(2), 103-120.

Grothues, J., Bischof, G., Reinhardt, S., Hapke, U., Meyer, C., John, U., & Rumpf, H.-J. (2005). Intention to change drinking behaviour in general practice patients with problematic drinking and comorbid depression or anxiety. *Alcohol and alcoholism, 40*(5), 394-400.

Gurková, E., Čáp, J., Žiaková, K., & Ďurišková, M. (2012). Job satisfaction and emotional subjective well-being among Slovak nurses. *International Nursing Review, 59*(1), 94-100.

Hachem, H., & Vuopala, E. (2016). Older adults, in Lebanon, committed to learning: Contextualizing the challenges and the benefits of their learning experience. *Educational Gerontology, 42*(10), 686-697.

Hackman, J. R., & Oldham, G. R. (1975). Development of the job diagnostic survey. *Journal of Applied psychology, 60*(2), 159.

Häfner, A., Stock, A., & Oberst, V. (2015). Decreasing students' stress through time management training: An intervention study. *European journal of psychology of education, 30*(1), 81-94.

Hagger, M. S. (2015). Implicating Self-Control in the Mechanism by which

Implementation Intentions Reduce Stress-Induced Unhealthy Eating: a Comment on O'Connor et al. *Annals of Behavioral Medicine*, *49*(3), 301-304.

Halama, P., Martos, T., & Adamovova, L. (2010). Religiosity and well-being in Slovak and Hungarian student samples: The role of personality traits. *Studia Psychologica*, *52*(2), 101.

Hanrahan, S. J. (2005). Using psychological skills training from sport psychology to enhance the life satisfaction of adolescent Mexican Orphans. *Journal of Sports Psychology*, *7*(3), 1-7.

Hanson, J. M., Trolian, T. L., Paulsen, M. B., & Pascarella, E. T. (2016). Evaluating the influence of peer learning on psychological well-being. *Teaching in Higher Education*, *21*(2), 191-206.

Harmon-Jones, E. 2001. The role of affect in cognitive-dissonance processes. J. P. Forgas, ed. *Handbook of Affect and Social Cognition*. Lawrence Erlbaum Associates, Mahwah, NJ, 239–257.

Harmon-Jones, E., Amodio, D. M., & Harmon-Jones, C. (2009). Action-based model of dissonance: A review, integration, and expansion of conceptions of cognitive conflict. *Advances in experimental social psychology*, *41*, 119-166.

Harris, G. E., & Cameron, J. E. (2005). Multiple Dimensions of Organizational Identification and Commitment as Predictors of Turnover Intentions and Psychological Well-Being. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, *37*(3), 159.

Harris, K., English, T., Harms, P. D., Gross, J. J., & Jackson, J. J. (2017). Why are Extraverts more Satisfied? Personality, Social Experiences, and Subjective Well-being in College. *European Journal of Personality*, *31*(2), 170-186.

Hattar, A., Pal, S., & Hagger, M. S. (2016). Predicting Physical Activity-Related Outcomes in Overweight and Obese Adults: A Health Action Process Approach. *Applied Psychology: Health and Well-Being*, *8*(1), 127-151.

Heber, E. et al. 2016. Web-Based and Mobile Stress Management Intervention for Employees: A Randomized Controlled Trial. *J Med Internet Res* 18(1), p. e21.

Hedman, E. et al. 2015. Predictors in Internet-delivered cognitive behavior therapy and behavioral stress management for severe health anxiety. *Behav Res Ther* 64, pp. 49-55.

Heinitz, K., Lorenz, T., Schulze, D., & Schorlemmer, J. (2018). Positive organizational behavior: Longitudinal effects on subjective well-being. *PloS*

one, 13(6), e0198588.

Henderson-King, D., & Smith, M. N. (2006). Meanings of education for university students: Academic motivation and personal values as predictors. *Social Psychology of Education, 9*(2), 195-221.

Henning, G., Hansson, I., Berg, A. I., Lindwall, M., & Johansson, B. (2017). The role of personality for subjective well-being in the retirement transition–Comparing variable-and person-oriented models. *Personality and Individual Differences, 116*, 385-392.

Henning, M. A., Hawken, S. J., Krägeloh, C., Zhao, Y., & Doherty, I. (2011). Asian medical students: quality of life and motivation to learn. *Asia Pacific Education Review, 12*(3), 437-445.

Hentschel, S., Eid, M., & Kutscher, T. (2017). The influence of major life events and personality traits on the stability of affective well-being. *Journal of Happiness Studies, 18*(3), 719-741.

Hicks, W. D. (1983). *The process of entering training programs and its effects on training outcomes.* The Ohio State University,

Hicks, W. D., & Klimoski, R. J. (1987). Entry into training programs and its effects on training outcomes: A field experiment. *Academy of management journal, 30*(3), 542-552.

Hill, C. E., & Lent, R. W. (2006). A narrative and meta-analytic review of helping skills training: Time to revive a dormant area of inquiry. *Psychotherapy: Theory, Research, Practice, Training, 43*(2), 154.

Hinojosa, A. S., Gardner, W. L., Walker, H. J., Cogliser, C., & Gullifor, D. (2017). A review of cognitive dissonance theory in management research: Opportunities for further development. *Journal of Management, 43*(1), 170-199.

Hojat, M., Gonnella, J. S., Erdmann, J. B., & Vogel, W. H. (2003). Medical students' cognitive appraisal of stressful life events as related to personality, physical well-being, and academic performance: A longitudinal study. *Personality and Individual Differences, 35*(1), 219-235.

Holfve-Sabel, M.-A. (2014). Learning, interaction and relationships as components of student well-being: Differences between classes from student and teacher perspective. *Social Indicators Research, 119*(3), 1535-1555.

Houkes, I., Janssen, P. P., de Jonge, J., & Bakker, A. B. (2003). Personality, work characteristics and employee well-being: A longitudinal analysis of additive

and moderating effects. *Journal of Occupational Health Psychology*, *8*(1), 20.

Howell, R. T., Ksendzova, M., Nestingen, E., Yerahian, C., & Iyer, R. (2016). Your personality on a good day: How trait and state personality predict daily well-being. *Journal of Research in Personality*, 797-801.

Huang, Y., Lv, W., & Wu, J. (2016). Relationship between intrinsic motivation and undergraduate students' depression and stress: the moderating effect of interpersonal conflict. *Psychological reports, 119*(2), 527-538.

Hudson, N. W., & Fraley, R. C. (2016). Changing for the better? Longitudinal associations between volitional personality change and psychological well-being. *Personality and Social Psychology Bulletin, 42*(5), 603-615.

Huppert, F. A. (2009). Psychological well-being: Evidence regarding its causes and consequences. *Applied Psychology: Health and Well-Being, 1*(2), 137-164.

Huppert, F. A., & Whittington, J. E. (2003). Evidence for the independence of positive and negative well-being: Implications for quality of life assessment. *British journal of health psychology*, *8*(1), 107-122.

Hutchinson, J. G., & Williams, P. G. (2007). Neuroticism, daily hassles, and depressive symptoms: An examination of moderating and mediating effects. *Personality and Individual Differences, 42*(7), 1367-1378.

Ismail, A. and Bongogoh, S. 2007. The supervisor's role in training programmes: An empirical study in one city based local authority in Sarawak, Malaysia. *Unitar E-Journal* 3(2), 60-71.

Ismail, A., Mohamed, H. A., Sulaiman, A. Z., Sabhi, S. (2010). Supervisor's role as an antecedent of training transfer and motivation to learn in training programs. *Acta Universitatis Danubius,* 2, 18–38.

Itzick, M., Kagan, M., & Tal-Katz, P. (2018). Perceived social support as a moderator between perceived discrimination and subjective well-being among people with physical disabilities in Israel. *Disability and rehabilitation, 40*(18), 2208-2216.

James, C., Bore, M., & Zito, S. (2012). Emotional intelligence and personality as predictors of psychological well-being. *Journal of Psychoeducational Assessment*, *30*(4), 425-438.

Jamieson S. (2004). Likert scales: how to (ab)use them. *Med Educ., 38*(12):1217–1218.

Jansen, P., Dahmen-Zimmer, K., Kudielka, B. M., & Schulz, A. (2017). Effects of

karate training versus mindfulness training on emotional well-being and cognitive performance in later life. *Research on aging, 39*(10), 1118-1144.

Jenkins, A., & Mostafa, T. (2015). The effects of learning on wellbeing for older adults in England. *Ageing & Society, 35*(10), 2053-2070.

Jonge, J., Dormann, C., Janssen, P. P., Dollard, M. F., Landeweerd, J. A., & Nijhuis, F. J. (2001). Testing reciprocal relationships between job characteristics and psychological well-being: A cross-lagged structural equation model. *Journal of occupational and organizational psychology, 74*(1), 29-46.

Kahneman, D., Diener, E., & Schwarz, N. (1999). *Well-being: Foundations of hedonic psychology*: Russell Sage Foundation.

Kaliampos, A., & Roussi, P. (2017). Religious beliefs, coping, and psychological well-being among Greek cancer patients. *Journal of health psychology, 22*(6), 754-764.

Kanste, O. (2011). Work engagement, work commitment and their association with well-being in health care. *Scandinavian Journal of Caring Sciences, 25*(4), 754-761.

Karanika-Murray, M., Michaelides, G., & Wood, S. J. (2017). Job demands, job control, psychological climate, and job satisfaction: A cognitive dissonance perspective. *Journal of Organizational Effectiveness: People and Performance, 4*(3), 238-255.

Karasek Jr, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative science quarterly*, 285-308.

Karasek, R., Brisson, C., Kawakami, N., Houtman, I., Bongers, P., & Amick, B. (1998). The Job Content Questionnaire (JCQ): an instrument for internationally comparative assessments of psychosocial job characteristics. *Journal of occupational health psychology, 3*(4), 322.

Kazarian, S. S., & Martin, R. A. (2004). Humour styles, personality, and well-being among Lebanese university students. *European journal of Personality, 18*(3), 209-219.

Keller, A. C., Meier, L. L., Elfering, A., & Semmer, N. K. (2019). Please wait until I am done! Longitudinal effects of work interruptions on employee well-being. *Work & Stress*, 1-20.

Keng, C. J., & Liao, T. H. (2013). Self-confidence, anxiety, and post-purchase dissonance: a panel study. *Journal of Applied Social Psychology, 43*(8), 1636-

1647.

Keyes, C. L. M. (1998). Social well-being. *Social psychology quarterly*, 121-140.

Kim, E.-J., Park, S., & Kang, H.-S. (2019). Support, training readiness and learning motivation in determining intention to transfer. *European Journal of Training and Development, 43* (3), 306-321.

Kim, K., Oh, I. S., Chiaburu, D. S., & Brown, K. G. (2012). Does positive perception of oneself boost learning motivation and performance? *International Journal of Selection and Assessment, 20*(3), 257-271.

Kim, S. E., Kim, H.-N., Cho, J., Kwon, M.-J., Chang, Y., Ryu, S., . . . Kim, H.-L. (2016). Direct and indirect effects of five factor personality and gender on depressive symptoms mediated by perceived stress. *PloS one, 11*(4), e0154140.

King, R. B., & Ganotice Jr, F. A. (2015). Does family obligation matter for students' motivation, engagement, and well-being?: It depends on your self-construal. *Personality and Individual Differences, 86*, 243-248.

Kinnunen, U., & Feldt, T. (2013). Job characteristics, recovery experiences and occupational well-being: Testing cross-lagged relationships across 1 year. *Stress and Health, 29*(5), 369-382.

Kirkpatrick, D. (1996). Great ideas revisited. *Training & Development, 50*(1), 54-60.

Kirkpatrick, D. L. (1975). *Evaluating training programs*: Tata McGraw-Hill Education.

Kirkpatrick, D., & Kirpatrick, J. D. (2011). *The Kirkpatrick Four Levels*: Kirkpatrick Partners.

Kirkpatrick, J. (2008). The new world level 1 reaction sheets. *Retrieved October, 2*, 2010.

Kirkpatrick, J. D., & Kirkpatrick, W. K. (2016). *Kirkpatrick's four levels of training evaluation*: Association for Talent Development.

Kohn, P. M., Lafreniere, K., & Gurevich, M. (1990). The Inventory of College Students' Recent Life Experiences: A decontaminated hassles scale for a special population. *Journal of behavioral medicine, 13*(6), 619-630.

Komarraju, M., & Karau, S. J. (2005). The relationship between the big five personality traits and academic motivation. *Personality and individual differences, 39*(3), 557-567.

Komarraju, M., Karau, S. J., & Schmeck, R. R. (2009). Role of the Big Five

personality traits in predicting college students' academic motivation and achievement. *Learning and individual differences, 19*(1), 47-52.

Kontoghiorghes, C. (2002). Predicting motivation to learn and motivation to transfer learning back to the job in a service organization: A new systemic model for training effectiveness. *Performance Improvement Quarterly, 15*(3), 114-129.

Koopman, J., Lanaj, K., & Scott, B. A. (2016). Integrating the bright and dark sides of OCB: A daily investigation of the benefits and costs of helping others. *Academy of Management Journal, 59*(2), 414-435.

Kovacs, M., Kovacs, E., & Hegedűs, K. (2010). Is emotional dissonance more prevalent in oncology care? Emotion work, burnout and coping. *Psycho-Oncology, 19*(8), 855-862.

Koydemir, S., & Schütz, A. (2012). Emotional intelligence predicts components of subjective well-being beyond personality: A two-country study using self-and informant reports. *The Journal of Positive Psychology, 7*(2), 107-118.

Kraaij, V., van der Veek, S. M., Garnefski, N., Schroevers, M., Witlox, R., & Maes, S. (2008). Coping, goal adjustment, and psychological well-being in HIV-infected men who have sex with men. *AIDS patient care and STDs, 22*(5), 395-402.

Kroemeke, A. (2016). Changes in well-being after myocardial infarction: Does coping matter? *Quality of Life Research, 25*(10), 2593-2601.

Krusche, A., Cyhlarova, E., & Williams, J. M. G. (2013). Mindfulness online: an evaluation of the feasibility of a web-based mindfulness course for stress, anxiety and depression. *BMJ open, 3*(11), e003498.

Kumar Mishra, S., & Bhatnagar, D. (2010). Linking emotional dissonance and organizational identification to turnover intention and emotional well-being: A study of medical representatives in India. *Human Resource Management: Published in Cooperation with the School of Business Administration, The University of Michigan and in alliance with the Society of Human Resources Management, 49*(3), 401-419.

Ladegård, G. (2011). Stress management through workplace coaching: The impact of learning experiences. *International Journal of Evidence Based Coaching & Mentoring, 9*(1), 29-43.

Lawson, K. J., Noblet, A. J., & Rodwell, J. J. (2009). Promoting employee wellbeing: the relevance of work characteristics and organizational justice. *Health*

Promotion International, *24*(3), 223-233.

Layton, D. M. (2015). The role of the tutorial system in enabling students' academic success. *South African Journal of Higher Education, 29*(4), 198-210.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.

Lazarus, R. S. (1991). Psychological Stress in the Workplace. In P.L. Perrewe (Ed.). Handbook on job stress, *Journal of Social Behavior and Personality*, 6, 1-13.

Lee, K. H., Besthorn, F. H., Bolin, B. L., & Jun, J. S. (2012). Stress, spiritual, and support coping, and psychological well-being among older adults in assisted living. *Journal of Religion & Spirituality in Social Work: Social Thought, 31*(4), 328-347.

Lehmann-Willenbrock, N., Lei, Z., & Kauffeld, S. (2012). Appreciating age diversity and German nurse well-being and commitment: Co-worker trust as the mediator. *Nursing & health sciences, 14*(2), 213-220.

LePine, J. A., LePine, M. A., & Jackson, C. L. (2004). Challenge and hindrance stress: relationships with exhaustion, motivation to learn, and learning performance. *Journal of Applied Psychology*, *89*(5), 883.

Levin, D., Harriott, C., Paul, N. A., Zheng, T., & Adams, J. A. (2013). Cognitive dissonance as a measure of reactions to human-robot interaction. *Journal of Human-Robot Interaction, 2*(3), 1-17.

Lewin, K. (1951). *Field theory in social science; selected theoretical papers.* New York: Harper & Row.

Li, J., Riedel, N., Barrech, A., Herr, R. M., Aust, B., Mörtl, K., . . . Angerer, P. (2017). Nine-year longitudinal psychosocial and mental outcomes of a stress management intervention at work using psychotherapeutic principles. *Psychotherapy and psychosomatics, 86*(2), 113-115.

Li, W. D., Zhang, Z., Song, Z., & Arvey, R. D. (2016). It is also in our nature: Genetic influences on work characteristics and in explaining their relationships with well-being. *Journal of Organizational Behavior, 37*(6), 868-888.

Li, Y., Lan, J., & Ju, C. (2015). Achievement motivation and attributional style as mediators between perfectionism and subjective well-being in Chinese university students. *Personality and Individual Differences, 79*, 146-151.

Lim, D. H. 2000. Training design factors influencing transfer of training to the workplace within an international context. *Journal of Vocational Education*

and Training 52(2), 243-258.

Lin, C.-C. (2014). A higher-order gratitude uniquely predicts subjective well-being: Incremental validity above the personality and a single gratitude. *Social Indicators Research, 119*(2), 909-924.

Lin, C.-C. (2016). The roles of social support and coping style in the relationship between gratitude and well-being. *Personality and Individual Differences, 89*, 13-18.

Liu, W., Li, Z., Ling, Y., & Cai, T. (2016). Core self-evaluations and coping styles as mediators between social support and well-being. *Personality and Individual Differences, 88*, 35-39.

Liu, Y. (2015). The longitudinal relationship between Chinese high school students' academic stress and academic motivation. *Learning and Individual Differences, 38*, 123-126.

Loft, M. H., & Cameron, L. D. (2013). Using mental imagery to deliver self-regulation techniques to improve sleep behaviors. *Annals of Behavioral Medicine, 46*(3), 260-272.

Loher, B. T., Noe, R. A., Moeller, N. L., & Fitzgerald, M. P. (1985). A meta-analysis of the relation of job characteristics to job satisfaction. *Journal of applied psychology*, *70*(2), 280.

Lombas, A. S., & Esteban, M. Á. (2018). The Confounding Role of Basic Needs Satisfaction Between Self-Determined Motivation and Well-Being. *Journal of Happiness Studies, 19*(5), 1305-1327.

Luethcke, C. A., McDaniel, L., & Becker, C. B. (2011). A comparison of mindfulness, nonjudgmental, and cognitive dissonance-based approaches to mirror exposure. *Body Image*, *8*(3), 251-258.

Lui, P. P., Rollock, D., Chang, E. C., Leong, F. T., & Zamboanga, B. L. (2016). Big 5 personality and subjective well-being in Asian Americans: Testing optimism and pessimism as mediators. *Asian American Journal of Psychology*, *7*(4), 274.

Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Review of general psychology*, *9*(2), 111.

Machin, M. A., & Fogarty, G. J. (2003). Perceptions of training-related factors and personal variables as predictors of transfer implementation intentions. *Journal of Business and Psychology, 18*(1), 51-71.

Machin, M. A., & Fogarty, G. J. (2004). Assessing the antecedents of transfer

intentions in a training context. *International Journal of Training and Development, 8*(3), 222-236.

Machin, M. A., & Treloar, C. A. (2004). *Predictors of motivation to learn when training is mandatory*. Paper presented at the Proceedings of the 39th Australian Psychological Society Annual Conference: Psychological Science in Action.

Magee, C., & Biesanz, J. C. (2018). Toward understanding the relationship between personality and well-being states and traits. *Journal of personality*.

Maio, G. R. (2016). *The psychology of human values*: Routledge.

Major, D. A., Turner, J. E., & Fletcher, T. D. (2006). Linking proactive personality and the Big Five to motivation to learn and development activity. *Journal of applied psychology, 91*(4), 927.

Mäkikangas, A., Feldt, T., & Kinnunen, U. (2007). Warr's scale of job-related affective well-being: A longitudinal examination of its structure and relationships with work characteristics. *Work & Stress, 21*(3), 197-219.

Mark, G. M., & Smith, A. P. (2008). Stress models: A review and suggested new direction. *Occupational health psychology, 3*, 111-144.

Mark, G., & Smith, A. (2018). A Qualitative Study of Stress in University Staff. *Advances in Social Sciences Research Journal, 5*(2), 238-247.

Mark, G., & Smith, A. P. (2012a). Effects of occupational stress, job characteristics, coping, and attributional style on the mental health and job satisfaction of university employees. *Anxiety, Stress & Coping, 25*(1), 63-78.

Mark, G., & Smith, A. P. (2012b). Occupational stress, job characteristics, coping, and the mental health of nurses. *British journal of health psychology, 17*(3), 505-521.

Mark, G., & Smith, A. P. (2018). Coping and its relation to gender, anxiety, depression, fatigue, cognitive difficulties and somatic symptoms. *Journal of Education, Society and Behavioral Science, 25*(4), 1-22.

Marsland, A. L., Cohen, S., Rabin, B. S., & Manuck, S. B. (2006). Trait positive affect and antibody response to hepatitis B vaccination. *Brain, behavior, and immunity, 20*(3), 261-269.

Marx, R. D. (1986). Improving management development through relapse prevention strategies. *Journal of Management Development*, *5*(2), 27–40.

Mathieu, J. E., Tannenbaum, S. I., & Salas, E. (1992). Influences of individual and

situational characteristics on measures of training effectiveness. *Academy of management journal, 35*(4), 828-847.

Matos, M. G. d., Camacho, I., Reis, M., Costa, D., Galvão, D., & Social, T. A. (2016). Worries, coping strategies and well-being in adolescence: highlights from HBSC study in Portugal. *Vulnerable Children and Youth Studies, 11*(3), 274-280.

Matsuba, M. K., Elder, G. J., Petrucci, F., & Marleau, T. (2008). *Employment training for at-risk youth: A program evaluation focusing on changes in psychological well-being.* Paper presented at the Child & Youth Care Forum.

Maville, J. A., Tucker, B. A., & Kranz, P. L. (2004). Perceived stress reported by nurse practitioner students. *Journal of the American Academy of Nurse practitioners, 16*(6), 257-262.

Mayordomo, T., Viguer, P., Sales, A., Satorres, E., & Meléndez, J. C. (2016). Resilience and coping as predictors of well-being in adults. *The Journal of psychology, 150*(7), 809-821.

McCrae, R. R., & Costa, P. T. (2003). *Personality in adulthood: A five-factor theory perspective*: Guilford Press.

McInerney, D. M., Ganotice, F. A., King, R. B., Morin, A. J., & Marsh, H. W. (2015). Teachers' Commitment and psychological well-being: implications of self-beliefs for teaching in Hong Kong. *Educational Psychology, 35*(8), 926-945.

McLean, G. N., & McLean, L. D. (2001). If we can't define HRD in one country, how can we define it in an international context? *Human Resource Development International*, 4(3), 313–326.

Mello, J. (2016). Life Adversity, Social Support, Resilience, and College Student Mental Health. *All Master's Theses.* 347.

Menasco, M. B., & Hawkins, D. I. (1978). A field test of the relationship between cognitive dissonance and state anxiety. *Journal of Marketing Research*, 650-655.

Meng, X., & D'Arcy, C. (2016). Coping strategies and distress reduction in psychological well-being? A structural equation modelling analysis using a national population sample. *Epidemiology and psychiatric sciences, 25*(4), 370-383.

Mesmer-Magnus J., & Viswesvaran C. (2010). The role of pre-training interventions in learning: A meta-analysis and integrative review. *Human Resource*

Management Review, 20, 261-282.

Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human resource management review, 1*(1), 61-89.

Meyer, J. P., & Maltin, E. R. (2010). Employee commitment and well-being: A critical review, theoretical framework and research agenda. *Journal of vocational behavior, 77*(2), 323-337.

Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of vocational behavior, 61*(1), 20-52.

Millward, L. J., Haslam, S. A., & Postmes, T. (2007). Putting employees in their place: The impact of hot desking on organizational and team identification. *Organization Science, 18*(4), 547-559.

Mokgele, K. R., & Rothmann, S. (2014). A structural model of student well-being. *South African Journal of Psychology, 44*(4), 514-527.

Monks K., Conway E., & Dhuigneain M. N. 2006. Integrating personal development and career planning: the outcomes for first year undergraduate learning. *Active Learning in Higher Education, 7*(2), 73-86.

Morgan, J. I., & Harris, P. R. (2015). Evidence that brief self-affirming implementation intentions can reduce work-related anxiety in downsize survivors. *Anxiety, Stress, & Coping, 28*(5), 563-575.

Morgan, J., & Atkin, L. (2016). Expelling Stress for Primary School Teachers: Self-Affirmation Increases Positive Emotions in Teaching and Emotion Reappraisal. *International journal of environmental research and public health, 13*(5), 500.

Morin, A. J., Meyer, J. P., McInerney, D. M., Marsh, H. W., & Ganotice, F. A. (2015). Profiles of dual commitment to the occupation and organization: Relations to well-being and turnover intentions. *Asia Pacific Journal of Management, 32*(3), 717-744.

Mowday, R. T., Steers, R. M., & Porter, L. W. (1979). The measurement of organizational commitment. *Journal of vocational behavior, 14*(2), 224-247.

Müller, F. H., Palekčić, M., Beck, M., & Wanninger, S. (2007). Personality, motives and learning environment as predictors of self-determined learning motivation.

Review of psychology, *13*(2), 75-86.

Muller, J. (1992). The effects of personal development training on the psychological state of long-term unemployed women. *Australian Psychologist*, *27*(3), 176-180.

Myers, D. G. (2010). *Social Psychology* (10th ed.). New York: McGraw-Hill.

Narushima, M., Liu, J., & Diestelkamp, N. (2013). The association between lifelong learning and psychological well-being among older adults: implications for interdisciplinary health promotion in an aging society. *Activities, Adaptation & Aging*, *37*(3), 239-250.

Nelson, K., & Smith, A. P. (2016). Occupational stress, coping and mental health in Jamaican police officers. *Occupational medicine*, *66*(6), 488-491.

Newland, L. A., Giger, J. T., Lawler, M. J., Roh, S., Brockevelt, B. L., & Schweinle, A. (2019). Multilevel Analysis of Child and Adolescent Subjective Well-Being Across 14 Countries: Child-and Country-Level Predictors. *Child development*, *90*(2), 395-413.

Nijman, D.-J. J., Nijhof, W. J., Wognum, A., & Veldkamp, B. P. (2006). Exploring differential effects of supervisor support on transfer of training. *Journal of European industrial training*, *30*(7), 529-549.

Nikolova, I., Van Ruysseveldt, J., De Witte, H., & Syroit, J. (2014). Well-being in times of task restructuring: The buffering potential of workplace learning. *Work & Stress*, *28*(3), 217-235.

Noblet, A., Graffam, J., & McWilliams, J. (2008). Sources of well-being and commitment of staff in the Australian Disability Employment Services. *Health & Social Care in the Community*, *16*(2), 137-146.

Noe, R. A. (1986). Trainees' attributes and attitudes: Neglected influences on training effectiveness. *Academy of management review*, *11*(4), 736-749.

Noe, R. A., Tews, M. J., & Marand, A. D. (2013). Individual differences and informal learning in the workplace. *Journal of Vocational Behavior*, *83*(3), 327-335.

Nolen-Hoeksema, S., & Rusting, C. L. (2003). 17 Gender Differences in Well-Being. *Well-being: Foundations of hedonic psychology*, 330.

Norman G. (2010). Likert scales, levels of measurement and the ‘‘laws’’ of statistics. *Adv Health Sci Educ Theory Pract.*, *15*(5):625–632.

Oerlemans, W., & Bakker, A. (2018). Motivating job characteristics and happiness at work: A multilevel perspective. *The Journal of applied psychology*.

Olasupo, M. O., Idemudia, E. S., & Dimatkakso, M. (2018). Adjustment, Psychological Well-being and Mental Health of First Year Students in a South African University. *North American Journal of Psychology, 20*(1).

Omosehin, O., & Smith, A. P. (2018). Adding new variables to the Well-being Process Questionnaire (WPQ)–Further studies of workers and students. *Journal of Education, Society and Behavioural Science*, 1-19.

Önder, İ., Beşoluk, Ş., İskender, M., Masal, E., & Demirhan, E. (2014). Circadian preferences, sleep quality and sleep patterns, personality, academic motivation and academic achievement of university students. *Learning and Individual Differences, 32*, 184-192.

O'Reilly, C. A., & Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial behavior. *Journal of applied psychology, 71*(3), 492.

Organ, D. W. (1988). OCB: The good soldier syndrome. In: Lexington, MA: Lexington Books.

Organ, D. W., Podsakoff, P. M., & MacKenzie, S. B. (2006). *Organizational citizenship behavior: Its nature, antecedents, and consequences.* Thousand Oaks, CA: Sage.

Osedach, J. (2013). *Using the job demands-resources model to understand student engagement: The impact of resource use on academic outcomes, and the impact of need for cognition on engagement*: City University of New York.

Palsane, M. N. (2005). Self-incongruent behaviour, stress and disease. *Psychological Studies-University of Calicut, 50*(4), 283.

Park, C. L., & Adler, N. E. (2003). Coping style as a predictor of health and well-being across the first year of medical school. *Health psychology, 22*(6), 627.

Parks-Stamm, E. J., Gollwitzer, P. M., & Oettingen, G. (2010). Implementation intentions and test anxiety: Shielding academic performance from distraction. *Learning and Individual Differences, 20*(1), 30-33.

Pasikowski, T., Sek, H., & Ziarko, M. (2005). Health oriented goals, self-regulatory processes, health behaviors, and well-being. *Polish Psychological Bulletin, 1*(36), 25-33.

Perkins, R., & Williamon, A. (2014). Learning to make music in older adulthood: A mixed-methods exploration of impacts on wellbeing. *Psychology of Music, 42*(4), 550-567.

Phang, C. K., Mukhtar, F., Ibrahim, N., Keng, S.-L., & Sidik, S. M. (2015). Effects of a brief mindfulness-based intervention program for stress management among medical students: The Mindful-Gym randomized controlled study. *Advances in Health Sciences Education, 20*(5), 1115-1134.

Phipps, D. L., Walshe, K., Parker, D., Noyce, P. R., & Ashcroft, D. M. (2016). Job characteristics, well-being and risky behaviour amongst pharmacists. *Psychology, health & medicine, 21*(8), 932-944.

Pintrich, P. R. (1991). *A manual for the use of the Motivated Strategies for Learning Questionnaire (MSLQ).*

Pisanti, R., van der Doef, M., Maes, S., Lazzari, D., & Bertini, M. (2011). Job characteristics, organizational conditions, and distress/well-being among Italian and Dutch nurses: a cross-national comparison. *International Journal of Nursing Studies, 48*(7), 829-837.

Pisanti, R., van der Doef, M., Maes, S., Lombardo, C., Lazzari, D., & Violani, C. (2015). Occupational coping self-efficacy explains distress and well-being in nurses beyond psychosocial job characteristics. *Frontiers in Psychology, 6*, 1143.

Plopa, M., Plopa, W., & Skuzińska, A. (2017). Bullying at work, personality and subjective well-being. *Journal of occupational health psychology, 22*(1), 19.

Pollock, N. C., Noser, A. E., Holden, C. J., & Zeigler-Hill, V. (2016). Do orientations to happiness mediate the associations between personality traits and subjective well-being? *Journal of Happiness Studies, 17*(2), 713-729.

Pomp, S., Lippke, S., Fleig, L., & Schwarzer, R. (2010). Synergistic effects of intention and depression on action control: Longitudinal predictors of exercise after rehabilitation. *Mental Health and Physical Activity, 3*(2), 78-84.

Pugh, S. D., Groth, M., & Hennig-Thurau, T. (2011). Willing and able to fake emotions: A closer examination of the link between emotional dissonance and employee well-being. *Journal of Applied Psychology, 96*(2), 377.

Rabenu, E., Yaniv, E., & Elizur, D. (2017). The relationship between psychological capital, coping with stress, well-being, and performance. *Current Psychology, 36*(4), 875-887.

Reeve, K. L., Shumaker, C. J., Yearwood, E. L., Crowell, N. A., & Riley, J. B. (2013). Perceived stress and social support in undergraduate nursing students' educational experiences. *Nurse Education Today, 33*(4), 419-424.

Reilly, J. E. R., & Fitzpatrick, J. J. (2009). Perceived stress and sense of belonging in doctor of nursing practice students. *Journal of Professional Nursing, 25*(2), 81-86.

Reis, D., & Hoppe, A. (2015). Change in affective well-being on change in perceived job characteristics: The mediating role of hope. *Journal of Occupational and Organizational Psychology, 88*(1), 19-40.

Rey, L., Extremera, N., & Sánchez-Álvarez, N. (2019). Clarifying The Links Between Perceived Emotional Intelligence and Well-Being in Older People: Pathways Through Perceived Social Support from Family and Friends. *Applied Research in Quality of Life, 14*(1), 221-235.

Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological bulletin, 138*(2), 353.

Roberts, Z., Rogers, A., Thomas, C. L., & Spitzmueller, C. (2018). Effects of proactive personality and conscientiousness on training motivation. *International Journal of Training and Development, 22*(2), 126-143.

Robins, T. G., Roberts, R. M., & Sarris, A. (2015). Burnout and engagement in health profession students: The relationships between study demands, study resources and personal resources. *The Australasian Journal of Organisational Psychology, 8*.

Romero, E., Gómez-Fraguela, J. A., & Villar, P. (2012). Life aspirations, personality traits and subjective well-being in a Spanish sample. *European Journal of Personality, 26*(1), 45-55.

Rose, R. D., Buckey Jr, J. C., Zbozinek, T. D., Motivala, S. J., Glenn, D. E., Cartreine, J. A., & Craske, M. G. (2013). A randomized controlled trial of a self-guided, multimedia, stress management and resilience training program. *Behaviour Research and Therapy, 51*(2), 106-112.

Rouiller, J. Z., & Goldstein, I. L. (1993). The relationship between organizational transfer climate and positive transfer of training. *Human resource development quarterly, 4*(4), 377-390.

Russell, D., & Jones, W. H. (1980). When superstition fails: Reactions to disconfirmation of paranormal beliefs. *Personality and Social Psychology Bulletin, 6*(1), 83-88.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of

intrinsic motivation, social development, and well-being. *American psychologist*, *55*(1), 68.

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual review of psychology*, *52*(1), 141-166.

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. New York: The Guilford Press.

Rydstedt, L. W., Ferrie, J., & Head, J. (2006). Is there support for curvilinear relationships between psychosocial work characteristics and mental well-being? Cross-sectional and long-term data from the Whitehall II study. *Work & Stress*, *20*(1), 6-20.

Ryff, C. D. (1995). Psychological well-being in adult life. *Current directions in psychological science: a journal of the American Psychological Society.*, *4*(4), 99.

Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of personality and social psychology*, *69*(4), 719.

Ryff, C. D., & Singer, B. H. (2008). Know thyself and become what you are: A eudaimonic approach to psychological well-being. *Journal of happiness studies*, *9*(1), 13-39.

Ryff, C. D., Radler, B. T., & Friedman, E. M. (2015). Persistent psychological well-being predicts improved self-rated health over 9-10 years: Longitudinal evidence from MIDUS. *Health Psychology Open*, *2* (2), 1-11.

Rzeszutek, M., Gruszczyńska, E., & Firląg-Burkacka, E. (2017). Coping profiles and subjective well-being among people living with HIV: less intensive coping corresponds with better well-being. *Quality of Life Research*, 1-10.

Sahinidis, A. G., & Bouris, J. (2008). Employee perceived training effectiveness relationship to employee attitudes. *Journal of European Industrial Training*, *32*(1), 63-76.

Saks, A. M., & Burke, L. A. (2012). An investigation into the relationship between training evaluation and the transfer of training. *International Journal of Training and Development*, *16*(2), 118-127.

Saloniemi, A., Romppainen, K., Strandh, M., & Virtanen, P. (2014). Training for the unemployed: differential effects in white-and blue-collar workers with respect

to mental well-being. *Work, employment and society, 28*(4), 533-550.

Sanger, K. L., Thierry, G., & Dorjee, D. (2018). Effects of school-based mindfulness training on emotion processing and well-being in adolescents: evidence from event-related potentials. *Developmental science*, e12646.

Santos, A., Castanheira, F., Chambel, M. J., Amarante, M. V., & Costa, C. (2017). Relational job characteristics and well-being: A study among Portuguese and Brazilian hospital nurses. *Stress and Health, 33*(4), 415-425.

Saricaoglu, H., & Arslan, C. (2013). An Investigation into Psychological Well-Being Levels of Higher Education Students with Respect to Personality Traits and Self-Compassion. *Educational Sciences: Theory and Practice, 13*(4), 2097-2104.

Schell, E. et al. 2008. Impact of a web-based stress management and health promotion program on neck-shoulder-back pain in knowledge workers? 12month prospective controlled follow-up. *J Occup Environ Med* 50(6), 667-676.

Schellenberg, B. J., & Bailis, D. S. (2016). The two roads of passionate goal pursuit: Links with appraisal, coping, and academic achievement. *Anxiety, Stress, & Coping, 29*(3), 287-304.

Schiller, J. H., Stansfield, R. B., Belmonte, D. C., Purkiss, J. A., Reddy, R. M., House, J. B., & Santen, S. A. (2018). Medical students' use of different coping strategies and relationship with academic performance in preclinical and clinical years. *Teaching and learning in medicine, 30*(1), 15-21.

Seligman, M., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*(1), 5–14. doi:10.1037/0003-066X.55.1.5.

Shapira, N., Barak, A., & Gal, I. (2007). Promoting older adults' well-being through Internet training and use. *Aging & Mental Health, 11*, 477-484.

Shim, S., Serido, J., & Tang, C. (2012). The ant and the grasshopper revisited: The present psychological benefits of saving and future oriented financial behaviors. *Journal of Economic Psychology, 33*(1), 155-165.

Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of occupational health psychology, 1*(1), 27-41.

Siltaloppi, M., Kinnunen, U., & Feldt, T. (2009). Recovery experiences as moderators between psychosocial work characteristics and occupational well-being. *Work & Stress, 23*(4), 330-348.

Simmering, M. J., Colquitt, J. A., Noe, R. A., & Porter, C. O. (2003).

Conscientiousness, autonomy fit, and development: A longitudinal study. *Journal of Applied Psychology*, *88*(5), 954.

Singh, A. K., & Singh, A. (2008). Organisational Citizenship Behaviour. *ASBM Journal of Management, 1*(1), 47-56.

Singh, A. K., & Singh, A. (2009). Does personality predict organisational citizenship behaviour among managerial personnel. *Journal of the Indian Academy of Applied Psychology, 35*(2), 291-298.

Sitzmann, T., & Weinhardt, J. M. (2018). Training engagement theory: A multilevel perspective on the effectiveness of work-related training. *Journal of Management, 44*(2), 732-756.

Siu, O. l. (2002). Occupational stressors and well-being among Chinese employees: The role of organisational commitment. *Applied Psychology, 51*(4), 527-544.

Sivanathan, N., Molden, D. C., Galinsky, A. D., & Ku, G. (2008). The promise and peril of self-affirmation in de-escalation of commitment. *Organizational Behavior and Human Decision Processes, 107*(1), 1-14.

Smith, A. P. (2012). Combined effects of work-related stress in Her Majesty's Coastguard (HMCG). *International maritime health, 63*(1), 63-70.

Smith, A. P. (2017). Effects of noise on errors, injuries and subjective health of nursing staff. In Proceedings of the 12thICBEN Congress on Noise as a Public Health Problem, 18-22.

Smith, A. P. (2018). Cognitive fatigue and the well-being and academic attainment of university students. *Journal of Education, Society and Behavioral Science. DOI, 10*.

Smith, A. P., & Smith, H. (2017). A short questionnaire to measure wellbeing at work (Short-SWELL) and to examine the interaction between the employee and organisation.

Smith, A. P., & Smith, H. N. (2017). *Workload, fatigue and performance in the rail industry.* Paper presented at the International Symposium on Human Mental Workload: Models and Applications.

Smith, A., & Smith, H. (2016). An international survey of the wellbeing of employees in the business process outsourcing industry. *Psychology, 8*(01), 160.

Smith, A., Ntoumanis, N., & Duda, J. (2010). An investigation of coach behaviors, goal motives, and implementation intentions as predictors of well-being in sport. *Journal of Applied Sport Psychology, 22*(1), 17-33.

Sonnentag, S., & Zijlstra, F. R. (2006). Job characteristics and off-job activities as predictors of need for recovery, well-being, and fatigue. *Journal of Applied Psychology, 91*(2), 330.

Spector, P. E., Bauer, J. A., & Fox, S. (2010). Measurement artifacts in the assessment of counterproductive work behavior and organizational citizenship behavior: Do we know what we think we know? *Journal of Applied Psychology, 95*(4), 781.

Srivastava, S., & Sinha, A. (2012). Resilience for well-being: The role of experiential learning. *New directions in health psychology*, 329-349.

Stalder, D. R., & Anderson, K. M. (2014). Are depressed individuals more susceptible to cognitive dissonance? *Current Research in Social Psychology*, 10-19.

Standage, M., Gillison, F. B., Ntoumanis, N., & Treasure, D. C. (2012). Predicting students' physical activity and health-related well-being: A prospective cross-domain investigation of motivation across school physical education and exercise settings. *Journal of Sport and Exercise Psychology, 34*(1), 37-60.

Stansfeld, S. A., Shipley, M. J., Head, J., Fuhrer, R., & Kivimaki, M. (2013). Work characteristics and personal social support as determinants of subjective well-being. *PLoS One, 8*(11), e81115.

Stern, C., & West, T. V. (2014). Circumventing anxiety during interpersonal encounters to promote interest in contact: An implementation intention approach. *Journal of Experimental Social Psychology, 50*, 82-93.

Stewart, D. (1995). Developmental Considerations in Counselling Graduate Students. *Guidance & Counselling, 10*(3), 21-23.

Stiglbauer, B., & Batinic, B. (2015). Proactive coping with job insecurity: Is it always beneficial to well-being? *Work & Stress, 29*(3), 264-285.

Stoeber, J., Feast, A. R., & Hayward, J. A. (2009). Self-oriented and socially prescribed perfectionism: Differential relationships with intrinsic and extrinsic motivation and test anxiety. *Personality and Individual Differences, 47*(5), 423-428.

Strickhouser, J. E., Zell, E., & Krizan, Z. (2017). Does personality predict health and well-being? A metasynthesis. *Health Psychology, 36*(8), 797.

Suinn, R. M. (1965). Anxiety and cognitive dissonance. *The Journal of general psychology, 73*(1), 113-116.

Sullivan, G. M., & Artino Jr, A. R. (2013). Analyzing and interpreting data from

Likert-type scales. *Journal of graduate medical education*, *5*(4), 541-542.

Sun, J., Kaufman, S. B., & Smillie, L. D. (2017). Unique Associations Between Big Five Personality Aspects and Multiple Dimensions of Well-Being. *Journal of personality*. 1-47.

Tanksale, D. (2015). Big Five personality traits: Are they really important for the subjective well-being of Indians? *International Journal of Psychology*, *50*(1), 64-69.

Taris, T. W., & Kompier, M. A. (2004). Job characteristics and learning behavior: Review and psychological mechanisms. In *Exploring interpersonal dynamics*. 127-166.

Taris, T. W., & Wielenga-Meijer, E. G. (2010). Workers' personal initiative as a moderator of the relations between job characteristics and well-being. *Psychological reports*, *107*(1), 255-264.

Taris, T. W., Kompier, M. A., De Lange, A. H., Schaufeli, W. B., & Schreurs, P. J. (2003). Learning new behaviour patterns: A longitudinal test of Karasek's active learning hypothesis among Dutch teachers. *Work & Stress*, *17*(1), 1-20.

Tesluk, P. E., Farr, J. L., Mathieu, J. E., & Vance, R. J. (1995). Generalization of employee involvement training to the job setting: Individual and situational effects. *Personnel Psychology*, *48*(3), 607-632.

Tews, M. J., & Noe, R. A. (2017). Does training have to be fun? A review and conceptual model of the role of fun in workplace training. *Human Resource Management Review*. 1-13.

Thomas, C. L., Cassady, J. C., & Heller, M. L. (2017). The influence of emotional intelligence, cognitive test anxiety, and coping strategies on undergraduate academic performance. *Learning and Individual Differences*, *55*, 40-48.

Thoresen, C. J., Kaplan, S. A., Barsky, A. P., Warren, C. R., & de Chermont, K. (2003). The affective underpinnings of job perceptions and attitudes: a meta-analytic review and integration. *Psychological Bulletin*, *129*(6), 914-945.

Urban-Wojcik, E. J., Mumford, J. A., Almeida, D. M., Lachman, M. E., Ryff, C. D., Davidson, R. J., & Schaefer, S. M. (2020). Emodiversity, Health, and Well-Being in the Midlife in the United States (MIDUS) Daily Diary Study. Emotion. Advance online publication. http://dx.doi.org/10.1037/emo0000753

Vallerand, R. J., Pelletier, L. G., Blais, M. R., Briere, N. M., Senecal, C., & Vallieres, E. F. (1992). The Academic Motivation Scale: A measure of intrinsic,

extrinsic, and amotivation in education. *Educational and psychological measurement, 52*(4), 1003-1017.

Vallerand. (1992). The Academic Motivation Scale: A measure of intrinsic, extrinsic, and amotivation in education. *Educational and psychological measurement, 52*(4), 1003.

Van der Doef, M., & Maes, S. (1999). The job demand-control (-support) model and psychological well-being: a review of 20 years of empirical research. *Work & stress, 13*(2), 87-114.

van Doorn, Y., van Ruysseveldt, J., van Dam, K., Mistiaen, W., & Nikolova, I. (2016). Understanding well-being and learning of Nigerian nurses: a job demand control support model approach. *Journal of nursing management, 24*(7), 915-922.

van Ingen, E., Utz, S., & Toepoel, V. (2016). Online coping after negative life events: measurement, prevalence, and relation with internet activities and well-being. *Social Science Computer Review, 34*(5), 511-529.

Van Petegem, K., Aelterman, A., Rosseel, Y., & Creemers, B. (2007). Student perception as moderator for student wellbeing. *Social Indicators Research, 83*(3), 447-463.

Van Petegem, K., Aelterman, A., Van Keer, H., & Rosseel, Y. (2008). The influence of student characteristics and interpersonal teacher behaviour in the classroom on student's wellbeing. *Social Indicators Research, 85*(2), 279-291.

van Veldhoven, M., Taris, T. W., de Jonge, J., & Broersen, S. (2005). The relationship between work characteristics and employee health and well-being: how much complexity do we really need? *International Journal of Stress Management, 12*(1), 3.

Vandenberghe, C., Mignonac, K., & Manville, C. (2015). When normative commitment leads to lower well-being and reduced performance. *Human relations, 68*(5), 843-870.

Vecina, M. L., & Chacón, F. (2013). Is engagement different from satisfaction and organizational commitment? Relations with intention to remain, psychological well-being and perceived physical health in volunteers. *Anales de Psicología/Annals of Psychology, 29*(1), 225-232.

Vernmark, K. et al. 2010. Internet administered guided self-help versus individualized e-mail therapy: A randomized trial of two versions of CBT for major

depression. *Behav Res Ther* 48(5), pp. 368-376.

Weissbein, D.A., Huang, J.L., Ford, J.K., & Schmidt, A.M. 2011. Influence learning states to enhance trainee motivation and improve training transfer. *Journal of Business and Psychology*, 26, 423-435.

Weisweiler, S., Nikitopoulos, A., Netzel, J., & Frey, D. (2013). Gaining insight to transfer of training through the lens of social psychology. *Educational Research Review, 8*, 14-27.

Werner, J. M., & DeSimone, R. L. (2011). *Human resource development*: Cengage Learning.

Westphal, J. D., & Bednar, M. K. (2008). The pacification of institutional investors. *Administrative Science Quarterly, 53*(1), 29-72.

Wilkins, S., Beckenuyte, C., & Butt, M. M. (2016). Consumers' behavioural intentions after experiencing deception or cognitive dissonance caused by deceptive packaging, package downsizing or slack filling. *European Journal of Marketing, 50*(1/2), 213-235.

Willemse, B. M., De Jonge, J., Smit, D., Visser, Q., Depla, M. F., & Pot, A. M. (2015). Staff's person-centredness in dementia care in relation to job characteristics and job-related well-being: a cross-sectional survey in nursing homes. *Journal of advanced nursing, 71*(2), 404-416.

Williams, G. M., Pendlebury, H., Thomas, K., & Smith, A. P. (2017a). The Student Well-Being Process Questionnaire (Student WPQ). *Psychology, 8*(11), 1748.

Williams, G. M., Pendlebury, H., Thomas, K., & Smith, A. P. (2017b). The student wellbeing process questionnaire (Student WPQ). *Psychology, 8*, 1748-1761.

Williams, G., & Smith, A. P. (2016). Using single-item measures to examine the relationships between work, personality, and well-being in the workplace. *Psychology, 7*, 753-767.

Williams, G., Thomas, K., & Smith, A. P. (2017). Stress and Well-Being of University Staff: An Investigation Using the Demands-Resources-Individual Effects (DRIVE) Model and Well-Being Process Questionnaire (WPQ). *Psychology, 8*(12), 1919.

Wilson, M. G., Dejoy, D. M., Vandenberg, R. J., Richardson, H. A., & Mcgrath, A. L. (2004). Work characteristics and employee health and well-being: Test of a model of healthy work organization. *Journal of occupational and organizational psychology, 77*(4), 565-588.

Wilt, J. A., Grubbs, J. B., Exline, J. J., & Pargament, K. I. (2016). Personality, religious and spiritual struggles, and well-being. *Psychology of Religion and Spirituality, 8*(4), 341.

Xiao, J. 1996. The relationship between organizational factors and the transfer of training in the electronics industry in Shenzhen, China. *Human Resource Development Quarterly* 7(1), 55-73.

Yamashita, T., López, E. B., Stevens, J., & Keene, J. R. (2017). Types of learning activities and life satisfaction among older adults in Urban Community-based lifelong learning programs. *Activities, Adaptation & Aging, 41*(3), 239-257.

Yan, X., Yang, K., Su, J., Luo, Z., & Wen, Z. (2018). Mediating role of emotional intelligence on the associations between core self-evaluations and job satisfaction, work engagement as indices of work-related well-being. *Current Psychology, 37*(3), 552-558.

Yousaf, O., & Gobet, F. (2013). The emotional and attitudinal consequences of religious hypocrisy: Experimental evidence using a cognitive dissonance paradigm. *The Journal of social psychology, 153*(6), 667-686.

Zaiedy Nor, N. I., & Smith, A. P. (2018). Attitudes to Training and Their Relation to the Well-being of Workers. *Journal of Education, Society and Behavioural Science, 27*(2), 1-19.

Zaiedy Nor, N. I., & Smith, A. P. (2019). Psychosocial Characteristics, Training Attitudes and Well-being of Students: A Longitudinal Study. *Journal of Education, Society and Behavioural Science*, 1-26.

Zapf, D. (2002). Emotion work and psychological well-being: A review of the literature and some conceptual considerations. *Human resource management review, 12*(2), 237-268.

Zhai, Q., Willis, M., O'Shea, B., Zhai, Y., & Yang, Y. (2013). Big Five personality traits, job satisfaction and subjective wellbeing in China. *International Journal of Psychology, 48*(6), 1099-1108.

Zhu, D. H. (2013). Group polarization in board decisions about CEO compensation. *Organization Science, 25*(2), 552-571.

Zickar, M. J., Gibby, R. E., & Jenny, T. (2004). Job attitudes of workers with two jobs. *Journal of Vocational Behavior, 64*(1), 222-235.

Zurlo, M. C., Vallone, F., & Smith, A. P. (2018). Effects of individual differences and job characteristics on the psychological health of Italian nurses. *Europe's*

journal of psychology, *14*(1), 159.

Appendix A: Literature Review

Figure 2.3

Search process of the systematic literature review (motivation to learn and well-being)

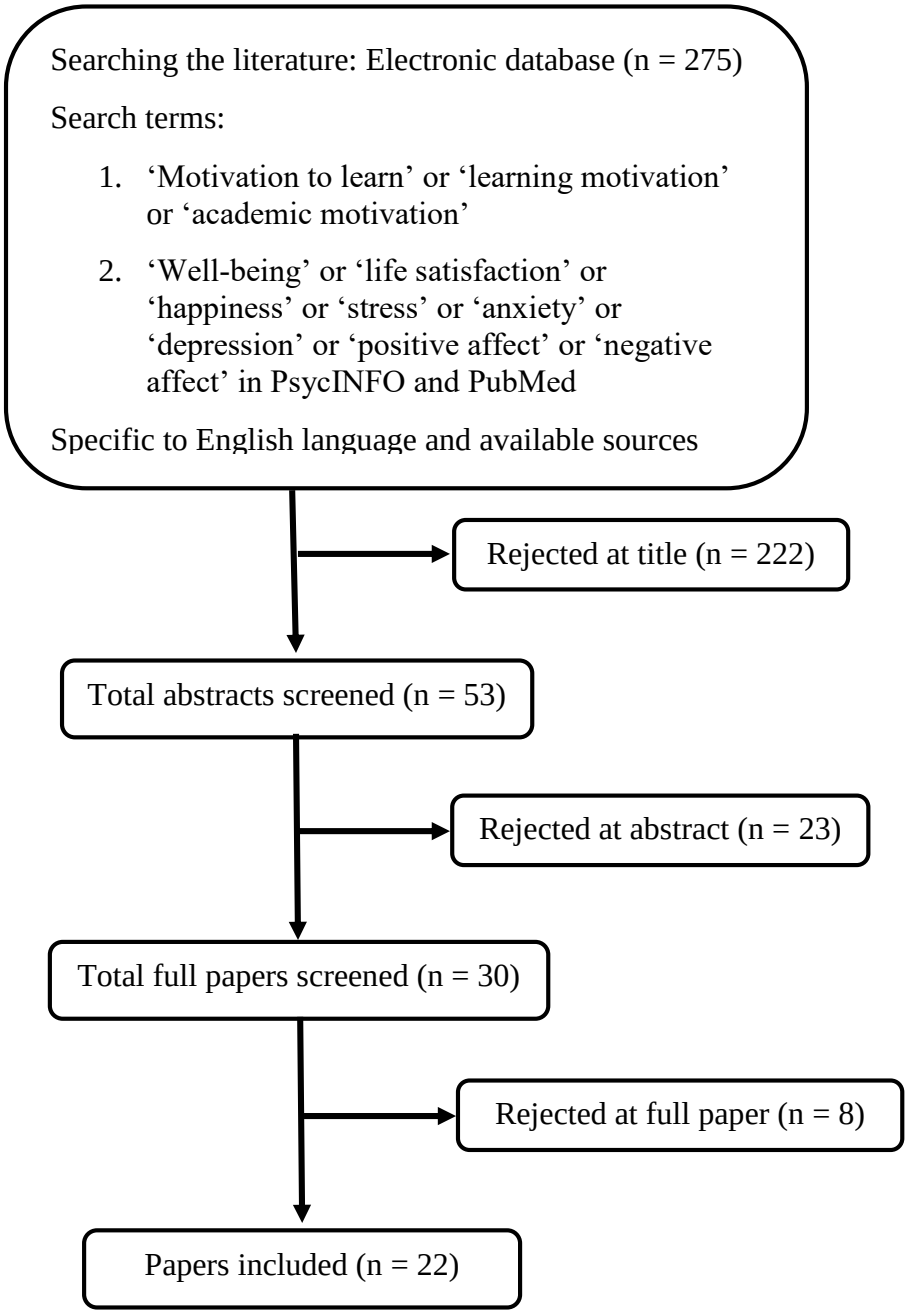


Table 2.1

Summary of the systematic literature review articles (motivation to learn and well-being)

Motivation to learn and well-being				
Author(s)	**Sample**	**Design**	**Measurement**	**Findings**
Bye et al. (2007)	300 undergraduates	Cross sectional	Intrinsic and extrinsic motivation to learn, interest and positive affect	Interest and intrinsic motivation significantly predicted positive affect.
Gottfried (1982)	141 fourth- and seven-grade students.	Cross sectional	Academic intrinsic motivation, academic anxiety	Academic intrinsic motivation and anxiety are negatively correlated and differentiated according to subject area.
Huang et al. (2016)	537 Chinese undergraduate students	Cross sectional	Intrinsic academic motivation, interpersonal conflict, stress and depression	Intrinsic academic motivation was negatively, while interpersonal conflict was positively, associated with depression and stress.
Stoeber et al. (2009)	105 students at British university	Cross sectional	Perfectionism, motivation to studying, anxiety (worry, emotionality, interference, lack of confidence)	Motivation for studying significantly explains 11 to 15%, of the variance in worry, interference and lack of confidence. Introjected reason positively associated with worry, intrinsic reasons negatively associated with lack of confidence.
Burton et al. (2006)	S1: 241 elementary school students	Longitudinal, experiment (study 2 – self-	Self-regulation scale → Intrinsic regulation & identified regulation. Positive and Negative Affect scale (Times 1 and 2)	Study 1 → intrinsic self-regulation positively predicted changes in students' psychological well-being. Study 2 → those in experimental intrinsic regulation induction had significantly higher levels

	S2: 60 undergraduate students	regulatory manipulation)		of well-being 10 days after writing a midterm examination.
Henning et al. (2011)	97 Asian and 99 European medical students.	Cross sectional	Quality of life (physical, psychological, social and environmental), motivation (motivational beliefs and self-regulated learning strategies).	International → Self-efficacy, intrinsic value positively correlated with all domain of QOL. Domestic → self-efficacy positively correlated with physical and psychological QOL, intrinsic value positively correlated with physical QOL, self-regulation positively correlated with psychological QOL.
Bernaus and Gardner (2008)	694 school students (15 years old)	Cross sectional	Motivation and language anxiety	Motivation positively correlated with language anxiety.
Essau et al. (2008)	1022 adolescents (Germany and Hong Kong)	Cross sectional	Anxiety symptoms, perfectionism, learning history and school motivation (general mastery, general performance, and competition)	Germany: general anxiety disorder symptoms correlated significantly with general performance and with competition. Hong Kong: general anxiety disorder symptoms correlated significantly positive with general performance and with competition
LePine et al. (2004)	871 university students	Cross sectional	Cognitive ability, personality, hindrance and challenge stress, motivation to learn, exhaustion, learning performance	Hindrance stress was negatively related to motivation to learn, challenge stress was positively related to motivation to learn, and motivation to learn was positively related to learning

				performance. Exhaustion negative correlated with motivation to learn
Erturan-Ilker (2014)	1082 school students	Cross sectional	Psychological need satisfaction, motivational regulations, subjective vitality, global self-esteem, social physique anxiety (SPA).	Intrinsic motivation negatively associated with SPA, positively with subjective vitality. Identifies regulation positively associated with subjective vitality. External regulation negative associated with subjective vitality. Amotivation positively associated with SPA, negatively with self-esteem.
Emadpoor et al. (2016)	371 female high school students	Cross sectional	Psychological well-being, social support appraisal and academic motivation	Direct effect of academic motivation on well-being. Perceived social support indirectly has an effect on psychological well-being with the help of academic motivation
Lombas and Esteban (2018)	673 school students	Cross sectional	Basic psychological needs, academic motivation, self-esteem, life satisfaction. depression, stress, loneliness	Intrinsic motivation (overall and knowledge, stimulation, accomplishment) positively correlated with satisfaction with life, negatively correlated with stress and loneliness.
Bailey and Phillips (2016)	184 first-year university students.	Cross sectional	Academic motivation, adaptation to college, anxiety, depression, meaning in life, life satisfaction, positive and negative affect	Amotivation was a significant negative predictor of life satisfaction, positively predict negative affect and depression. Extrinsic motivation that is internally regulated significantly predicted PA, and intrinsic motivation to know and accomplish was marginally significant as a positive predictor of PA.

King and Ganotice Jr (2015)	466 university students	Cross sectional	Family obligation, relational self, motivation, engagement and disaffection, well-being (life satisfaction, positive and negative affect)	Motivation (autonomous and controlled) positively correlated with life satisfaction and positive affect. Negative affect negatively correlated with autonomous motivation and positively with controlled motivation.
Baker (2004)	91 second-year psychology undergraduates	Cross sectional	Academic motivation, psychological well-being (general health), adaptation, stress.	Greater psychological distress, was related to higher amotivation scores. Lower intrinsic motivation to know scores had higher levels of self-perceived stress. Intrinsic motivation was positively related to adjustment, negatively related to stress.
Standage et al. (2012)	494 secondary school students	Longitudinal with three-wave design	T1: Autonomy support, autonomy, competence, relatedness, motivation towards physical education T2: Motivation towards exercise. T3: Physical self-concept, health related quality of life, physical activity	Health-related quality of life positively correlated with intrinsic motivation and identified regulation, and negatively correlated with introjected regulation, external regulation and amotivation.
Van Petegem, Aelterman, Van Keer, and Rosseel (2008)	594 grade 9 students	Cross sectional	Well-being inventory (include personal motivation for attending school), teacher interaction, test on language and mathematics.	Students who declared they attended school because they wanted to learn and saw the courses as interesting scored higher in well-being. Students who declared they attended school because they had no choice (compulsory) scored lower in well-being.

Liu (2015)	298 high school students	Cross sectional	Academic stress, academic motivation (4 domains)	Academic stress negatively correlated with intrinsic motivation (both grades), identified regulation (grade 10) and introjected regulation (grade 10), and positively correlated with amotivation (both grades).
Gore and Rogers (2010)	150 psychology students	Cross sectional	Attachment style, reason for studying, studying style, academic well-being (self-esteem, self-efficacy)	The associations between personal reasons for studying and academic well-being (self-esteem and self-efficacy) were positive for avoidant individuals (attachment style).
Henderson-King and Smith (2006)	653 undergraduate students	Cross sectional	Motivation, meaning of education (10 domains, one of it is stress)	Stress is positively correlated with outward motivation, and negatively correlated with challenge and compensation motivation.
Baker (2003)	91 university students	Longitudinal with three phases (October 1998 March 2000, June 2001)	T1: Social problem-solving appraisals, psychological and physical health. T2: Adjustment to university, academic motivation, GPA, psychological and physical health, stress. T3: GPA	Stress positively correlated with amotivation, and negatively correlated with intrinsic motivation to know, to accomplish task and stimulation. DHI and GHQ positively correlated with amotivation
Elmelid et al. (2015)	643 school students (13-15 years old)	Longitudinal with two phases	Academic motivation, depressive symptoms, anxiety symptoms.	Depressive symptoms were negatively associated with academic motivation. Anxiety was positively related to academic motivation in both genders

Figure 2.4

Search process of the systematic literature review (learning and well-being)

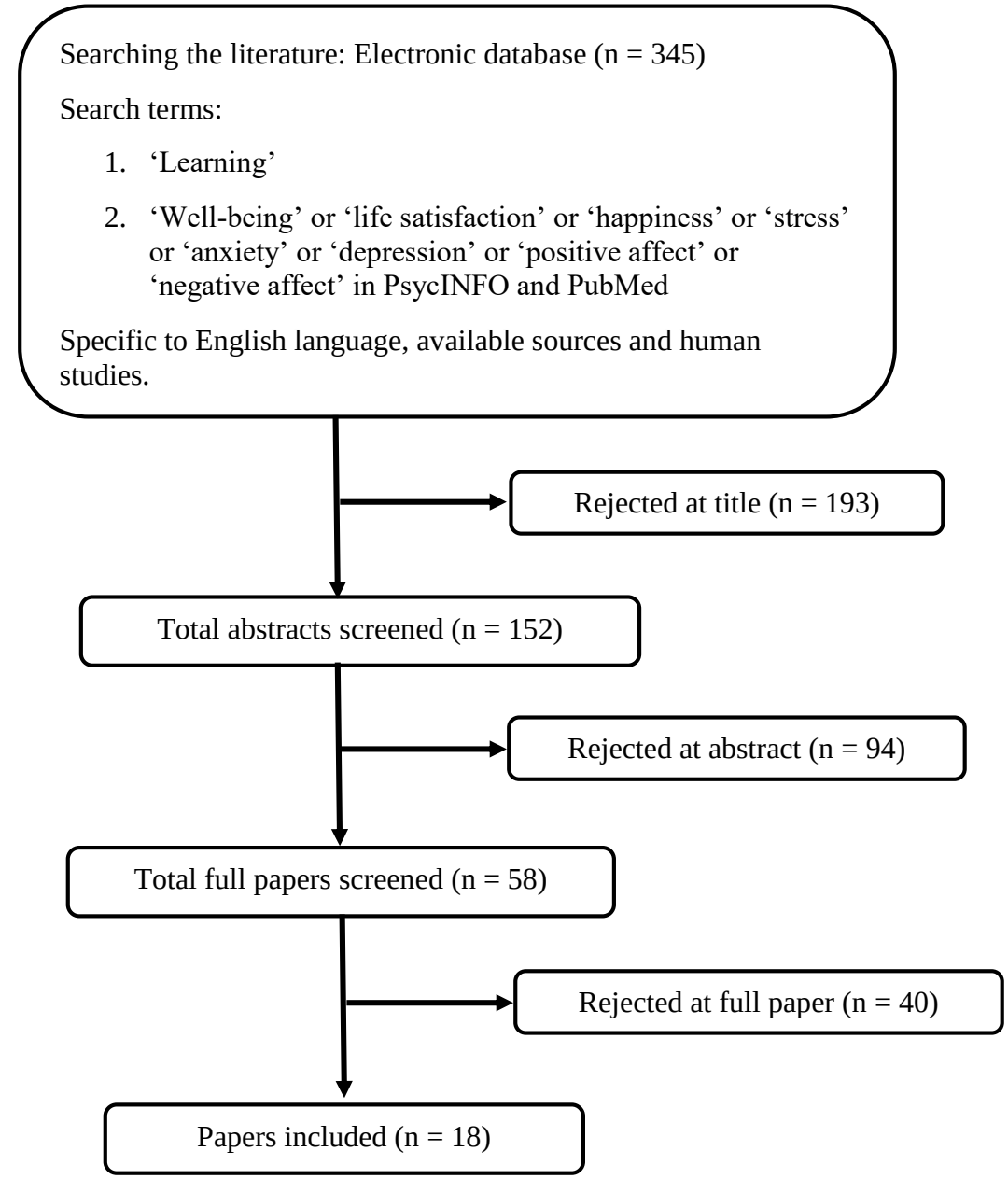


Table 2.2

Summary of the systematic literature review articles (learning and well-being)

Learning and well-being				
Author(s)	**Sample**	**Design**	**Measurement**	**Findings**
Cera et al. (2018)	322 older adults	Cross sectional	Learning conceptions, creativity test, life satisfaction	The individualistic conception of learning was associated with satisfaction with life.
Ashdown and Bernard (2012)	4 teachers, 99 preparatory and grade 1 students.	Experiment (Pre-post)	social-emotional well-being, social-emotional competence, social skills	Students in the YCDI were more able to manage their emotions, get along with others, and engage in their academic learning than the students in the non-YCDI classes. They also displayed higher levels of positive social-emotional well-being after the program than the students in the non-YCDI classes.
Hanson et al. (2016)	1792 college students	Longitudinal with three phases	Psychological well-being and peer learning.	Peer learning had a significant positive effect on all of the psychological well-being subscales except for positive relations with others.
Perkins and Williamon (2014)	98 and 21 music-learning (older adult)	S1: Longitudinal (intervention), two phases S2: Interview	S1: Well-being, health promoting behaviour. S2: Impact of learning on well-being	S1: Well-being levels and overall health-promoting behaviours increased after learning a musical instrument. S2: Positive impact of learning a musical instrument on subjective well-being

Holfve-Sabel (2014)	1540 students (grade six)	Cross sectional	Attitudes towards their school, teacher and peers, and well-being	Student's learning, student-to-student interaction and teacher–student relationships predict student's level of well-being.
Gardner and Helmes (1999)	117 older adults	Cross sectional	Self-directed learning, locus of control, autonomy and personal growth (well-being)	Self-directed learning positively influences autonomy and personal growth.
Åberg (2016)	258 participants (65 years and older)	Cross sectional and qualitative	Well-being and open-ended questions	Knowledge and skills have increased. Non-formal learning provides positive effects on well-being.
Srivastava and Sinha (2012)	30 undergraduate students	Experiment (experiential learning)	Self-esteem, well-being, happiness, resilience	Experiential learning associated with happiness, resilience, self-esteem and well-being.
Ladegård (2011)	56 workers	Longitudinal with three phases	Learning experience (Insight, planning skills), job characteristics, and stress.	Planning skills acquired through coaching reduce stress in the short term, and that the effect is mediated through a decrease in job demand.
England et al. (2017)	327 undergraduate students	Mixed methods (survey and interview)	Class anxiety, reason/caused of anxiety	Some students were more anxious than others, and some active learning practices caused more anxiety than others.
Narushima et al. (2013)	699 participants (60	Cross sectional	Health information, well-being, participation patterns (the duration of taking the current course)	The longer a person engaged with learning activities, the higher the level of psychological well-being.

	years and older)			
Jenkins and Mostafa (2015)	3096 participants (57-76 years old)	Longitudinal with four-wave	Well-being, type of learning/classes	Learning is positively correlated with well-being, and only informal learning significantly influenced well-being.
Yamashita et al. (2017)	420 older adults	Cross sectional	Life satisfaction, health, learning activities	Learning activities (non-OLLI program and self-learning activities) associated with health and life satisfaction domains
van Doorn et al., (2016)	210 Nigerian nurses	Cross sectional	Job characteristics, emotional exhaustion, burnout, active learning	Active learning positively correlated with emotional exhaustion, job control, and support (supervisor and colleague).
Nikolova et al. (2014)	1711 workers	Cross sectional	Job insecurity, task restructuring, newly acquired knowledge/skills (learning), well-being (emotional exhaustion and vigour)	Learning positively correlated with vigour and negatively with exhaustion. Learning, buffered the relationship between task restructuring and emotional exhaustion. Workplace learning can mitigate the negative relationship between task restructuring and well-being.
Alan Felstead et al. (2015)	2810 workers	Cross sectional	Job learning demand, learning disposition, job satisfaction, well-being	Learning alignment (matching between learning demand and learning dispositions) is associated with higher levels of satisfaction and well-being.

Hachem and Vuopala (2016)	461 elderly	Qualitative	Open ended questions on perceived benefits and challenges during learning term	Cognitive benefits (improve knowledge and intellectual), psychological and social benefits (more positive feelings, reduce negative feelings).
Dench and Regan (2000)	336 older adults (50-71 years old)	Qualitative (interview)	Motivations to learn, reasons for learning and perception of the impact of learning.	Eighty per cent of learners reported a positive impact of learning on at least one of: their enjoyment of life, their self-confidence, their self-perception, their satisfaction with other aspects of their life and their ability to cope.

Figure 2.5

Search process of the systematic literature review (transfer intention and well-being)

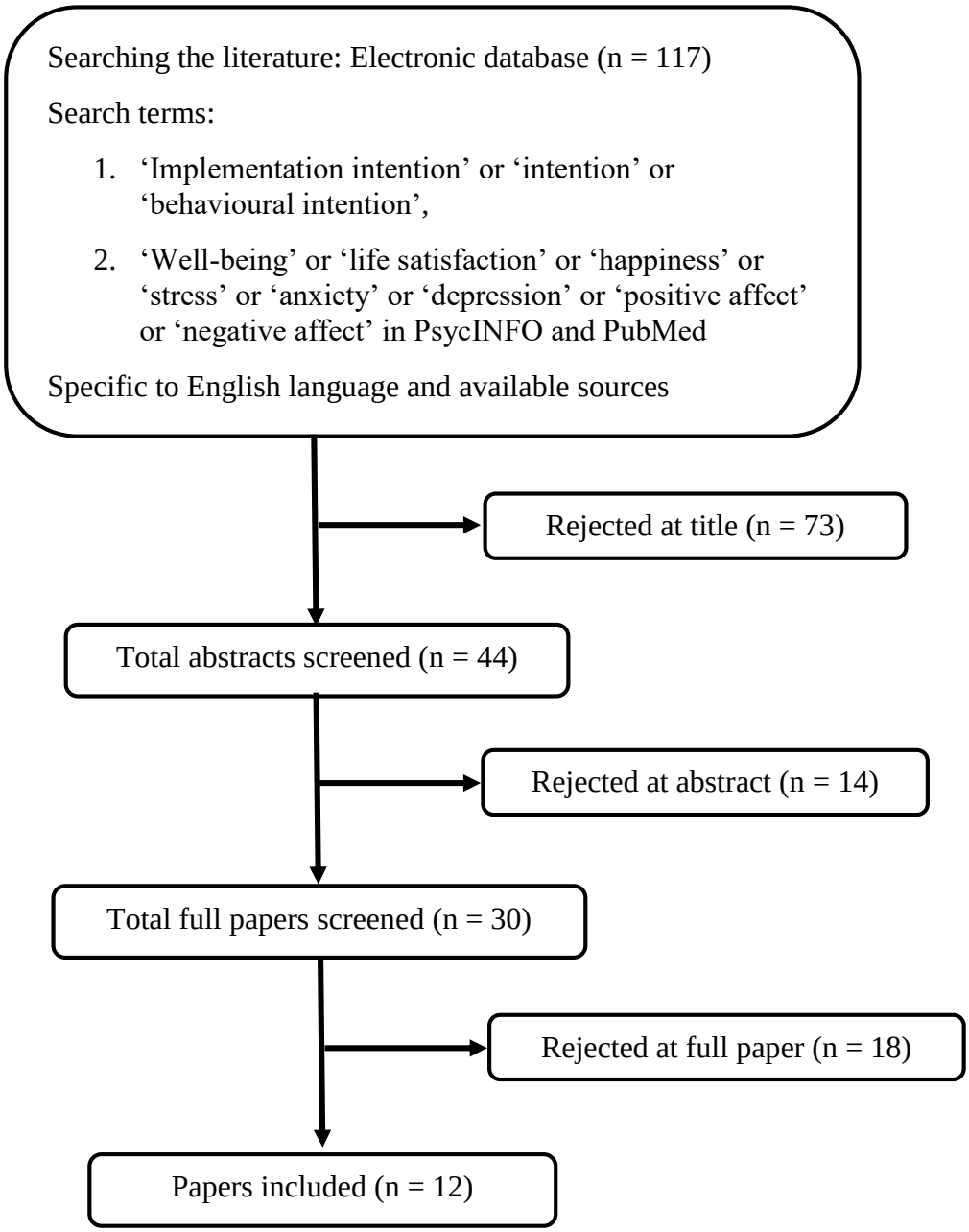


Table 2.3

Summary of the systematic literature review articles (transfer intention and well-being)

Transfer intention and well-being				
Author(s)	**Sample**	**Design**	**Measurement**	**Findings**
Morgan and Atkin (2016)	42 school teachers	Experiment and longitudinal with 3 time-points	Anxiety (T1, T2), self-efficacy (T2), emotions (T1, T3). (work-related self-affirming implementation intention – WS-AII, control implementation intention – CII)	WS-AII immediate reduction of anxiety and after 2 weeks, reported more positive emotions in teaching and the use of reappraisal emotion regulation strategies rather than emotion suppression. The integration of the WS-AII into existing organisational practice may be of benefit to the well-being of teachers and other highly stressed workers.
Morgan and Harris (2015)	66 staff (education college during downsizing)	Experiment and longitudinal with 3 time-points	T1: Job related well-being (anxious-comfort), job satisfaction, and state anxiety. T2: state anxiety, self-esteem, self-efficacy. T3: job-related well-being, job satisfaction	Control group were experiencing significantly more job-related anxiety at follow-up. Self-affirmation was associated with an immediate reduction in state anxiety, sustained longer than the period immediately following the manipulation, exhibited as a reduction in the appraisal of job-related anxiety three-week post baseline.
Parks-Stamm et al. (2010)	51 undergraduate students	Experiment (2 groups)	Test anxiety (T1). Use task-facilitating or temptation-inhibiting. Complete math problems while being distracted.	Students with high test anxiety do better if they are forming implementation intention to ignore distraction (temptation-inhibiting) rather than

				intensifying their efforts on the ongoing task (task-facilitating).
Machin and Fogarty (2003, 2004)	49 and 71 trainees.	Longitudinal with two and three phases	Positive and negative affect, transfer implementation intention and transfer climate.	Transfer implementation intention negatively correlated with negative affect and positively correlated with positive affect.
Alison Smith et al. (2010)	108 athletes	Longitudinal (T1 and T2)	Personal goal motives, implementation intentions related to goal, perceptions of coach behaviours, psychological well-being (affect, life satisfaction, burnout)	Autonomous intention motives positively predicts with psychological well-being, while controlled intention motives negatively predicts with psychological well-being.
Pasikowski et al. (2005)	143 participants (teachers, students)	Cross sectional	Self-efficacy, will power-action control, health behaviour, health intention strength, intention completeness, social influence.	The intention completeness was the strongest predictor of well-being. The main predictors of health behaviour are, intention strength, intention completeness and action orientation in planning of health behaviours.
Budden and Sagarin (2007)	274 workers	Experiment with two phases (implementation intention manipulation)	Occupational stress, theory of planned behaviour variables (4 constructs include exercise intention), obligation to comply, amount of exercise (T2)	Intention to exercise negatively correlated with occupational stress. Implementation intention negatively correlated with continuous exercise behaviour (minutes/seconds). Participants who did not form an implementation intention exercised significantly more than participants who formed an implementation intention.

Hattar et al. (2016)	74 obese/ overweight participants	Longitudinal with three phases	Health Action Process Approach (HAPA) construct (6 construct include intentions) physical and psychological outcomes	Intention positively correlated with physical activity behaviour, and negatively correlated with psychological outcome and body composition. Intention predicted psychological and body composition outcomes indirectly through physical activity behaviour.
Pomp, Lippke, Fleig, & Schwarzer (2010)	277 patients (cardiac and orthopaedic)	Longitudinal with two phases	Self-reported exercise, intention to perform exercise, action control, depressive symptoms.	Intention to behaviour did not significantly correlated with depressive symptoms, but positively correlated with physical exercise.
Shim et al. (2012)	748 first-year students	Longitudinal with two phases	T1: planned behaviour variables, behaviour intention, financial planning horizon, and well-being. Time 2 → actual saving, future-oriented financial behaviour, perception of impact of the economic crisis, well-being.	Behavioural intention related to saving positively correlated with past and current financial well-being, and current sense of overall well-being.
Loft and Cameron (2013)	104 business employs	Experiments (4 interventions), longitudinal (21 days of practiced)	Online measures of sleep quality, behaviours, and self-efficacy at baseline. Day 21; daily measures of sleep behaviours.	Implementation intention imagery exhibited greater improvements in self-efficacy, sleep behaviours, sleep quality, and time to sleep relative to participants using arousal reduction and control imagery.

Figure 2.6

Search process of the systematic literature review (cognitive dissonance and well-being)

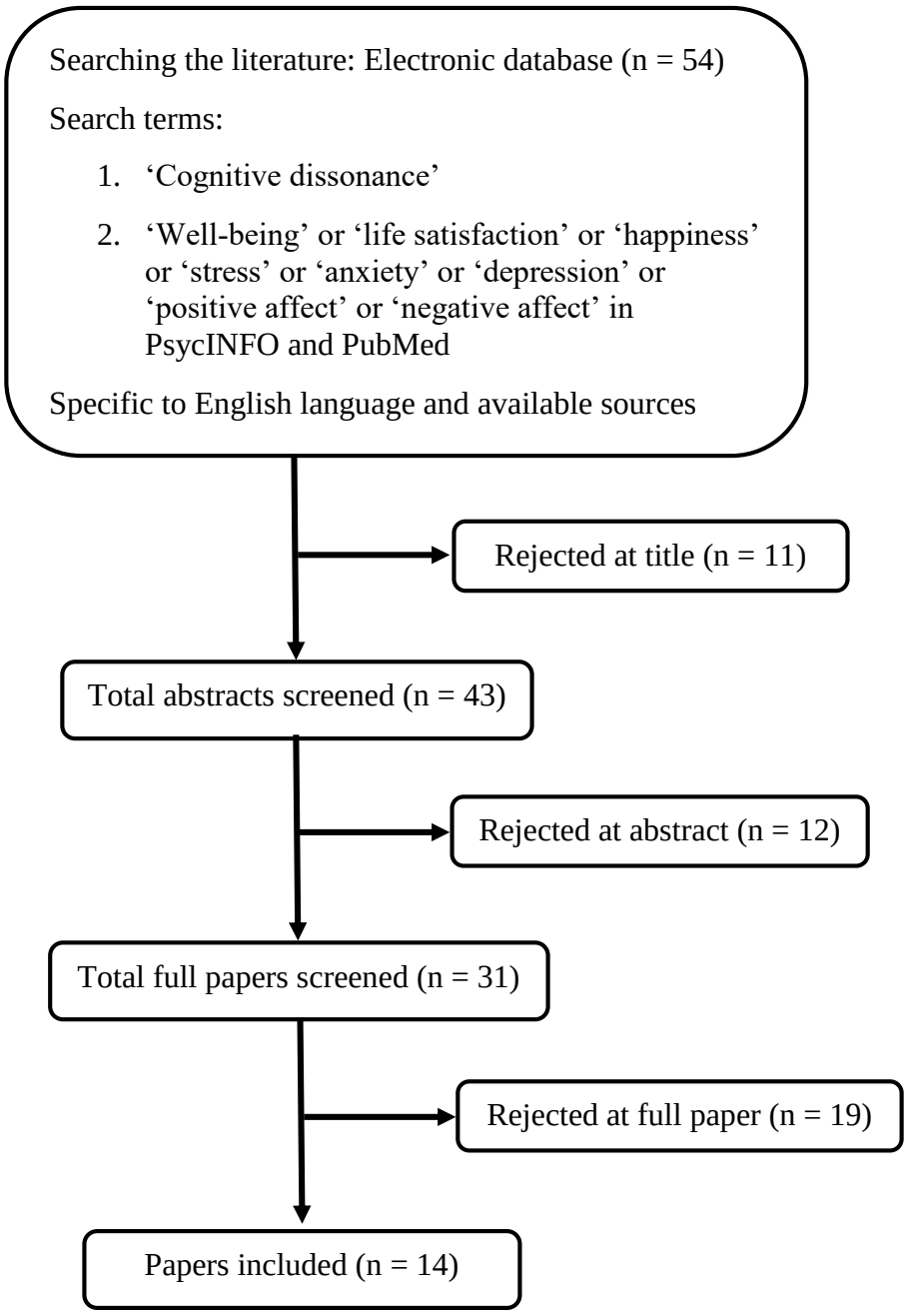


Table 2.4

Summary of the systematic literature review articles (cognitive dissonance and well-being)

Cognitive dissonance and well-being				
Author(s)	**Sample**	**Design**	**Measurement**	**Findings**
Luethcke et al. (2011)	168 females undergraduate	Experiments with three groups. Longitudinal with three phases	T1, T2, and T3: body image avoidance, body checking, satisfaction with body parts, depression, eating disorders.	Only CD ME significantly improved satisfaction with body parts outcome. All versions of ME reduce eating disorder risk factors, but only CD ME improves body satisfaction.
Menasco and Hawkins (1978)	173 recent purchasers of appliances	Longitudinal (pre- and post-purchase)	Anxiety state, difficulty of the purchase decision,	Post purchase dissonance were found to have a predicted effect on a validated measure of state anxiety.
Fontanari et al. (2012)	34 participants	Cross sectional	Emotion (intensity) and pleasantness (hedonicity). Decision making.	Most frequently used emotion names: indifference, joy, interest, pleasure, hope, expectation, desire, anxiety, fear, surprise.
Suinn (1965)	30 students	Cross sectional	Dissonance measure (value rating scale and attitudes questionnaire). Anxiety measure.	Discrepancies between evaluation and personal attitudes indicated the presence of dissonance (high scores of value and attitudes reflected a high amount of dissonance). The presence of dissonance is associated with feelings of anxiety

Burris et al. (1997)	38 undergraduate students	Experiment (pre-, condition, post-survey)	T1: Religion questions T2: transcendence measure, emotional reactions.	By reducing the dissonance through transcendence or maintaining their beliefs, could lessen the negative affect cause by dissonance.
Cronqvist et al. (2001)	36 nurses	Interview	Stress experiences, working conditions, perceived difficulties or problems	Dissonant imperatives seem to conceptualize stress in intensive care nursing.
Kovacs et al. (2010)	199 health care workers (oncology/non-oncology)	Cross sectional	Burnout, emotion work (3 constructs include emotional dissonance), coping,	Emotional dissonance as a stress factor was more prevalent among oncology health care workers. Emotional dissonance as a regulation problem is a significant stress factor and has a negative impact on physical and psychological status.
Foster and Misra (2013)	93 undergraduates	Experiment (dissonance manipulation)	Self-concept discrepancy, psychological discomfort and affect	Participants who were led to believe that they had been unfaithful reported symptoms associated with cognitive dissonance, thus report higher self-concept discrepancy, psychological discomfort, and poorer affect than participants in the faithful condition.
Kumar Mishra and Bhatnagar (2010)	468 medical representatives	Cross sectional	Organisational identification, turnover intention, emotional dissonance, emotional well-being	Emotional dissonance negatively correlated with emotional well-being, and positively correlated with turnover intention.

Becker et al. (2010)	106 females	Experiment (modified health weight vs cognitive dissonance) and longitudinal (5 phases)	Negative affect, thin-ideal internalization, body dissatisfaction, dietary restraint, bulimic pathology	CD decreased negative affect, thin-ideal internalization, and bulimic pathology to a greater degree post-intervention. Both CD and MHW reduced negative affect, internalization, body dissatisfaction, dietary restraint, and bulimic pathology at 14 months.
Yousaf and Gobet (2013)	42 participants	Experiment (dissonance manipulation vs control)	Religious activities, positive and negative affect	Dissonance participants reported higher levels of guilt and shame compared to the control condition.
Cheung and Tang (2010)	271 (Study 1) and 155 (Study 2) employees	Cross sectional and longitudinal (2 phases)	S1: Work characteristics, emotional dissonance, work strain, and job satisfaction. S2: T1 – emotional dissonance and work characteristics, T2 – work strain and job satisfaction	S1: Emotional dissonance positively correlated with somatic complaints and psychological distress, and negatively correlated with job satisfaction. S2: emotional dissonance positively correlated with psychological distress (T2), and negatively correlated with job satisfaction (T2).
Pugh et al. (2011)	528 employees	Cross sectional	Surface acting, importance of authentic emotional display, emotional exhaustion, and job satisfaction	Surface acting (emotional dissonance) positively influenced emotional exhaustion and negatively predicted job satisfaction.

Palsane (2005)	200 male participants	Cross sectional	Self-incongruent behaviour (lie and deception scale), physical and mental health, stress.	Lie and deception scales positively correlated with stress, and negatively correlated with physical and mental health.

Appendix B: Study 1

Questionnaire

Associations between Psychosocial Characteristics, Training Attitudes and Well-being: An Exploratory Study among Organisational Workers (Study 1)

Prepared By

Norshaffika Izzaty Zaiedy Nor

Doctoral student

Supervisor

Prof. Andy Smith

Centre for Occupational and Health Psychology (OCHP)

School of Psychology

Cardiff University

INFORMED CONSENT

I understand that my participation in this project will involve completing a questionnaire on about the nature of my job, my personality, wellbeing, motivation to learn, and attitudes to training which will take approximately 15 minutes to complete.

I understand that my participation in this study is voluntary and I may withdraw from the study at any time without giving any reason.

I understand that I am free to avoid responding to any question that I feel uncomfortable answering and that I can discuss my concerns with Ms Norshaffika Izzaty Zaiedy Nor or Professor Andy Smith at the below mentioned email addresses.

I understand that the information that I provide will be held anonymously so that it is impossible to trace this information back to me individually. I understand that this information may be retained indefinitely.

I also understand that at the end of the study I will be provided with additional information and feedback about the purpose of the study.

By checking the box below and continuing, I consent to participate in the study conducted by Ms Norshaffika Izzaty Zaiedy Nor (Doctoral Student), School of Psychology, Cardiff University, Wales, United Kingdom with the supervision of Professor Andy Smith.

I have read and understood the above statement and agree to participate. ☐

Contact details:

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Prof Andy Smith

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INSTRUCTIONS

Thank you for agreeing to participate in this study. The aim of the study is to investigate the role of psychological variables on attitudes to training.

The questionnaire measures demographic information, job characteristics, personality, individual differences, affectivity, motivation to learn, learning, implementation intention, cognitive dissonance, pre- and post- stress, anxiety, depression, well-being and coping style.

We would like to request that you be as open and honest as possible with your responses and to avoid any perception of what you think a desirable answer might be. There are no right or wrong answers, but the reliability of the data depends on your honesty and accuracy of responding. Therefore, please just answer according to your opinion and your situation. Please try to make sure you have not inadvertently missed out any questions.

Finally, we remind you that you are free to withdraw from the study at any point and if you feel uncomfortable answering any of the questions, you are free to not respond to those questions.

Thank you again for your participation.

SECTION 1: DEMOGRAPHIC INFORMATION

1. Age: …… years
2. Gender:
    - Male
    - Female
3. Current Status: (Please tick one box only):
    - Single
    - Separated
    - Living Partner
    - Divorced
    - Married
    - Widowed
4. Please select the furthest level of education you have completed:
    - Secondary Education (GCSE/0-Levels)
    - Post-Secondary Education (Collage, A-Levels, NVQ3 or below, or similar)
    - Vocational Qualification (Diploma, Certificate, BTEC, NVQ4 and above, or similar)
    - Undergraduate Degree (BA, BSc etc.)
    - Post-Graduate Degree (MA, MBA, MSc etc.)
    - Doctorate (Ph.D)
    - None of these (Please specify): ……
5. Race/Ethnicity:
    - White (English / Welsh / Scottish / Northern Irish / British)
    - White (Other)
    - Asian / Asian British
    - Black / African / Caribbean / Black British
    - Mixed / multiple ethnic groups
    - Other ethnic group (Please specify): ……

SECTION 2: YOUR JOB

The questions below are related to your work. Read the statements below and answer by checking the appropriate box.

1. Approximately how many days of sick leave have you had in the last 12 months? (Please tick one box)
    - None
    - 1-5 days
    - 6-10 days
    - 11-15 days
    - More than 15 days
2. Thinking about the past year, have you suffered from any illness that you think was caused, or made worse by work?
    - Yes
    - No
3. Over the past 6 months, how would you say your health in general has been?
    - Very good
    - Good
    - Fair
    - Bad
    - Very bad
4. Refer to the question below; please tick using the scale given about the nature of your job.

    0 = Never/almost never 1= Seldom 2 = Sometimes 3 = Often

No	Statement	0	1	2	3
1	Do you work at night?				
2	Do you do shift work?				
3	Do you have to work long or unsociable hours?				
4	Do you have to be “on call” for work?				
5	Do you have unpredictable working hours?				
6	Does your job ever expose you to breathing fumes, dusts or other potentially harmful substances?				

7	Does your job ever require you to handle or touch potentially harmful substances or materials?				
8	Do you ever have work tasks that leave you with a ringing in your ears or a temporary feeling of deafness?				
9	Do you work in an environment where the level of background noise disturbs your concentration?				

5. Type of job
    - Full time
    - Part time
6. Is your job permanent, temporary/casual, or fixed contract?
    - Permanent
    - Temporary/casual
    - Fixed contract

SECTION 3: PSYCHOSOCIAL CHARACTERISTICS AND WELL-BEING

Read the statements below and answer by checking the appropriate box.

1. To what extent does your job have negative characteristics (e.g. high demands, requires a lot of effort, little consultation on change, role conflict, issues with other members of staff)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

2. To what extent does your job have positive characteristics (e.g. control over what you do or how you do it; support from colleagues; support from managers; appropriate rewards)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

3. To what extent do you try to cope with problems in a positive way (e.g. you focus on the problem and try and solve it; you get social support)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

4. To what extent do you try to cope with problems in a passive way (e.g. avoid them; use wishful thinking; blame yourself)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

5. Do you think you have a positive personality (e.g. open; conscientious; extravert; agreeable; stable; high self-esteem; high self-efficacy; optimistic)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

6. Are you a model employee (e.g. helping; courteous; a good sport)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

7. Are you committed to your organisation (e.g. high job satisfaction; a motivated employee who does not intend to leave)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

SECTION 4: WELL-BIENG

1. In life generally, do you have a high level of wellbeing (e.g. high satisfaction; a positive mood; happiness)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

2. In life generally, do you have a low level of wellbeing (e.g. stress; anxiety; depression)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

SECTION 5: TRAINING QUESTIONS

1. Do you attend training courses at work?
    - Yes
    - No
2. Number of courses you have attended in the last year: ……
3. What is the average duration of the courses?
    - 1 – 2 hours
    - Half day
    - One day
    - Moe than one day
4. What type of training courses have you attended?
    - HR courses
    - Health and Safety courses
    - Skills training
5. Do the training courses that you attended relate to your work?
    - Yes
    - No
6. Do you think the training courses are useful?
    - Not at all useful
    - Slightly useful
    - Moderately useful
    - Very useful
    - Extremely useful

SECTION 6: TRAINING ATTITUDES

To what extent do you agree or disagree with each of the following statements *(Please circle one number for each).*

1. When I am doing the training courses, it is important for me to learn what is being taught in those courses.

Strongly disagree							Strongly agree		
1	2	3	4	5	6	7	8	9	10

2. When I am doing the training courses, I am looking forward to learning the content of the courses.

Strongly disagree	Strongly agree

1 2 3 4 5 6 7 8 9 10

3. When I am doing the training courses, I think I will be able to use what I learn in everyday life.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

4. I think that what I am learning in the training courses is useful for me to know.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

5. I understand the knowledge and skills presented in the training courses better than before undertaking those courses

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

6. I know the importance of knowledge and skills presented in the training courses better than before undertaking those courses.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

7. My knowledge and skills, which are taught in the training courses, were improved after undertaking those courses.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

8. I will look for opportunities and use the techniques I learned in the training courses as much as I can.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

9. I will spend time thinking about how to use the knowledge and skills that I have learned in training courses.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

10. Sometimes I feel uncomfortable when using the techniques I learned in training courses.

Strongly disagree							Strongly agree		
1	2	3	4	5	6	7	8	9	10

11. Sometimes I am confused either to apply the newly learned techniques in training courses or techniques that I usually used before undertaking the training courses.

Strongly disagree							Strongly agree		
1	2	3	4	5	6	7	8	9	10

DEBRIEF

Thank you for completing the questionnaire.

Thank you for your participation. As stated in the introduction the objective of the study is to examine the relationship between personal and job/course characteristics, training variables, and well-being.

The data that you have provided for the questionnaire will, therefore, be used to:

1. Examine the relationship between psychosocial characteristics, training attitudes, and well-being.
2. Develop the next stage of study based on the result from this data.

Your responses to the questionnaire will be held indefinitely and totally anonymous; with no questionnaire will be traceable to an individual.

If you have any queries or concerns about the research, please contact either the researcher (Ms Norshaffika Izzaty Zaiedy Nor) or the supervisor (Professor Andy Smith) or School of Psychology Ethics Committee by using the contact details attached below.

Thank you again for your participation.

School of Psychology Ethics Committee

Tel: 029 2087 0360

Email: psychethics@cardiff.ac.uk

Ms Norshaffika Izzaty Zaiedy Nor

School of Psychology

Cardiff University

63 Park Place Cardiff CF10 3AS

Tel: 07427061462

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Prof Andy Smith

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63 Park Place Cardiff CF10 3AS

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Thank you

Appendix C: Study 2

Questionnaire

Associations between Psychosocial Characteristics, Training Attitudes, Well-being and Academic Attainment: A Longitudinal Study among Undergraduate Students (Study 2)

Prepared By

Norshaffika Izzaty Zaiedy Nor

Doctoral student

Supervisor

Prof. Andy Smith

Centre for Occupational and Health Psychology (OCHP)

School of Psychology

Cardiff University

INFORMED CONSENT

I understand that my participation in this project will involve completing a questionnaire on about the nature of my job, my personality, wellbeing, motivation to learn, and attitudes to training which will take approximately 15 minutes to complete.

I understand that my participation in this study is voluntary and I may withdraw from the study at any time without giving any reason.

I understand that I am free to avoid responding to any question that I feel uncomfortable answering and that I can discuss my concerns with Ms Norshaffika Izzaty Zaiedy Nor or Professor Andy Smith at the below mentioned email addresses.

I understand that the information that I provide will be held anonymously so that it is impossible to trace this information back to me individually. I understand that this information may be retained indefinitely.

I also understand that at the end of the study I will be provided with additional information and feedback about the purpose of the study.

By checking the box below and continuing, I consent to participate in the study conducted by Ms Norshaffika Izzaty Zaiedy Nor (Doctoral Student), School of Psychology, Cardiff University, Wales, United Kingdom with the supervision of Professor Andy Smith.

I have read and understood the above statement and agree to participate. ☐

Contact details:

Ms Norshaffika Izzaty Zaiedy Nor
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Email: ZaiedyNorN@cardiff.ac.uk

Prof Andy Smith
School of Psychology
Cardiff University
63 Park Place Cardiff CF10 3AS
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INSTRUCTIONS

Thank you for agreeing to participate in this study. The objectives of this study are to explore the relationship between course and personal characteristics, training variables (motivation to learn, learning, implementation intention and cognitive dissonance) and well-being among student.

Pre-test study asked the participant/student about personal characteristics, motivation to learn and well-being at baseline, during School of Psychology Induction Week. Meanwhile, the Post-study will be asked the participant about course characteristics, training variables, and well-being at the current time.

This questionnaire measures job/course variables consist of negative and positive course characteristics, model student, commitment, and psychological contract; training variable that includes learning, implementation intention and cognitive dissonance; and well-being.

We would like to request that you be as open and honest as possible with your responses and to avoid any perception of what you think a desirable answer might be. There are no right or wrong answers, but the reliability of the data depends on your honesty and accuracy of responding. Therefore, please just answer according to your opinion and your situation. Please try to make sure you have not inadvertently missed out any questions.

Finally, we remind you that you are free to withdraw from the study at any point and if you feel uncomfortable answering any of the questions, you are free to not respond to those questions.

Thank you again for your participation.

PRE-TEST (TIME 1)

SECTION 1: DEMOGRAPHIC INFORMATION

1. Pre-test Code: …….
2. Gender:
    - Male
    - Female
3. Birth year: …….
4. Race/Ethnicity:
    - White (English / Welsh / Scottish / Northern Irish / British)
    - White (Other)
    - Asian / Asian British
    - Black / African / Caribbean / Black British
    - Mixed / multiple ethnic groups
    - Other ethnic group (Please specify): ……
5. Nationality: …….
6. Native speaker:
    - Yes
    - No
7. Native speaker:
    - Yes
    - No

SECTION 2: PSYCHOSOCIAL CHARACTERISTICS

1. To what extent do you cope with problems in a positive way (e.g. you focus on the problem and try to solve it; you got social support)?

    Not at all Very much so

    1 2 3 4 5 6 7 8 9 10

2. To what extent do you cope with problems in a passive way (e.g. avoid them, use wishful thinking; blame yourself)?

    Not at all Very much so

    1 2 3 4 5 6 7 8 9 10

3. Do you think you have a positive personality (e.g. open; conscientiousness; extravert; agreeable; stable; high self-esteem; optimistic)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

SECTION 3: MOTIVATION TO LEARN

1. When I am in the classes, it is important for me to learn what is being taught in the classes.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

2. When I am in the classes, I am looking forward to learning the content of the classes.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

3. When I am in the classes, I think I will be able to use what I learn in everyday life.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

4. I think what I am learning in the classes is useful for me to know.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

SECTION 4: WELL-BEING

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mode; happiness)

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

POST-TEST (TIME 2)

SECTION 1: PSYCHOSOCIAL CHARACTERISTICS

1. To what extent does your course have negative characteristics (e.g. high demands; requires a lot of effort; little consultation on change; role conflict; issues with other members of course)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

2. To what extent does your course have positive characteristics (e.g. control over what you do or how you do it; support from a classmate; support from teachers; appropriate rewards)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

3. Are you a model student (e.g. helping; courteous; a good sport)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

4. Are you committed to your university (e.g. high study satisfaction; a motivated student who does not intend to quit study)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

SECTION 2: TRAINING ATTITUDES

1. I understand the knowledge and skills presented in the classes better than before undertaking those classes.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

2. I know the importance of knowledge and skills presented in the classes better than before undertaking those classes.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

3. My knowledge and skills, which are taught in the classes were improved after undertaking those classes.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

4. I will look for opportunities and use the techniques I learned in classes as much as I can.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

5. I will spend time thinking about how to use the knowledge and skills that I have learned in the classes.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

6. Sometimes I feel uncomfortable when using the techniques I learned in the classes.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

7. Sometimes I am confused either to apply the newly techniques/skills in the classes or techniques/skills that I usually used before undertaking the classes.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

SECTION 3: WELL-BEING

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mode; happiness)

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

DEBRIEF

Thank you for completing the questionnaire.

Thank you for your participation. As stated in the introduction the objective of the study is to examine the relationship between personal and job/course characteristics, training variables, and well-being.

The data that you have provided for the questionnaire will, therefore, be used to:

1. Examine the relationship between psychosocial characteristics, training attitudes, and well-being by combining pre and post-test data.
2. Develop the next stage of study based on the result from this data.

Your responses to the questionnaire will be held indefinitely and totally anonymous; with no questionnaire will be traceable to an individual.

If you have any queries or concerns about the research, please contact either the researcher (Ms Norshaffika Izzaty Zaiedy Nor) or the supervisor (Professor Andy Smith) or School of Psychology Ethics Committee by using the contact details attached below.

Thank you again for your participation.

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Prof Andy Smith
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63 Park Place Cardiff CF10 3AS
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Thank you

Appendix D: Study 3

Questionnaire

Associations between Psychosocial Characteristics, Training Attitudes, Well-being and Academic Attainment in the Context of Personal Development Meetings and Academic Tutorials (Study 3)

Prepared By

Norshaffika Izzaty Zaiedy Nor

Doctoral student

Supervisor

Prof. Andy Smith

Centre for Occupational and Health Psychology (OCHP)

School of Psychology

Cardiff University

INFORMED CONSENT

I understand that my participation in this project will involve completing a questionnaire about my psychosocial characteristics, training variables (motivation to learn, learning, implementation intention, effort regulation, and cognitive dissonance in the context of Personal Development Meetings and Tutorials/Academic Tutorials), well-being and academic achievement, which will take approximately 10 minutes to complete.

I understand that my participation in this study is voluntary and I may withdraw from the study at any time without giving any reason.

I understand that I am free to not responding to any question that I feel uncomfortable answering and that I can discuss my concerns with Ms Norshaffika Izzaty Zaiedy Nor or Professor Andy Smith at the below-mentioned email addresses, or The School Research Ethics Committee, Cardiff University.

I understand that the information that I provide will be held confidentially and eventually anonymously so that it is impossible to trace this information back to me individually. The pre-test number that will be given to me as participant's identity will be held by one person in the School of Psychology, and this person is not a researcher and has no access to the data that was collected in the pre-test. I understand that this information may be retained indefinitely.

I also understand that at the end of the study I will be provided with additional information and feedback about the purpose of the study.

By checking the box below and continuing, I consent to participate in the study conducted by Ms Norshaffika Izzaty Zaiedy Nor (Doctoral Student), School of Psychology, Cardiff University, Wales, the United Kingdom under the supervision of Professor Andy Smith.

I have read and understood the above statement and agree to participate. ☐

Contact details:

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INSTRUCTIONS

Thank you for agreeing to participate in this study. The aim of this study is to investigate the effects of Personal Development Meetings (PDM) and Academic Tutorials (AT) on students' well-being and academic performance.

This study has 3 phases of data collection. Study Time 1 will ask students about personal characteristics and well-being at baseline, at the start of the academic year. Study Time 2, at the end of semester 1, will ask the students about course characteristics, training variables, well-being and academic attainment. Lastly, Study Time 3, at the end of semester 2, will ask students' reactions to both programs, and again well-being and academic attainment will be recorded.

This questionnaire measures psychosocial characteristics (personality, coping, affect, course characteristics, model student, commitment, effort regulation and stressors); training variables (motivation to learn, learning, implementation intention, effort regulation and cognitive dissonance in the context of PDM and T/AT); and well-being and academic performance.

We would like to request that you be as open and honest as possible with your responses and to avoid any perception of what you think a desirable answer might be. There are no right or wrong answers, but the reliability of the data depends on your honest and accurate responses. Therefore, please just answer according to your opinion and your situation. Please try to make sure you have not inadvertently missed out any questions, and read the instruction for each section carefully.

Finally, we remind you that you are free to withdraw from the study at any point and if you feel uncomfortable answering any of the questions, you are free to not respond to those questions.

Thank you again for your participation.

PRE-TEST (TIME 1)

SECTION 1: DEMOGRAPHIC INFORMATION

1. Pre-test Code: …….
2. Gender:
    - Male
    - Female
3. Birth year: …….
4. Race/Ethnicity:
    - White (English / Welsh / Scottish / Northern Irish / British)
    - White (Other)
    - Asian / Asian British
    - Black / African / Caribbean / Black British
    - Mixed / multiple ethnic groups
    - Other ethnic group (Please specify): ……
5. Nationality: …….
6. Native speaker:
    - Yes
    - No
7. Native speaker:
    - Yes
    - No

SECTION 2: PSYCHOSOCIAL CHARACTERISTICS

1. To what extent do you cope with problems in a positive way (e.g. you focus on the problem and try to solve it; you got social support)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

2. To what extent do you cope with problems in a passive way (e.g. avoid them, use wishful thinking; blame yourself)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

3. Do you think you have a positive personality (e.g. open; conscientiousness; extravert; agreeable; stable; high self-esteem; optimistic)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

SECTION 3: WELL-BEING

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mode; happiness)

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

POST-TEST (TIME 2)

SECTION 1: PSYCHOSOCIAL CHARACTERISTICS

1. To what extent does your course have negative characteristics (e.g. high demands; requires a lot of effort; little consultation on change; role conflict; issues with other members of course)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

2. To what extent does your course have positive characteristics (e.g. control over what you do or how you do it; support from a classmate; support from teachers; appropriate rewards)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

3. Are you a model student (e.g. helping; courteous; a good sport)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

4. Are you committed to your university (e.g. high study satisfaction; a motivated student who does not intend to quit study)?

   Not at all — Very much so

   1 2 3 4 5 6 7 8 9 10

SECTION 2: EFFORT REGULATION

1. I often feel so lazy or bored when I study for this course that I quit before I finish what I planned to do.

   Not at all true of me — Very true of me

   1 2 3 4 5 6 7 8 9 10

2. I work hard to do well in this course even if I don't like what we are doing.

   Not at all true of me — Very true of me

   1 2 3 4 5 6 7 8 9 10

3. When course work is difficult, I give up or only study the easy parts.

   Not at all true of me — Very true of me

   1 2 3 4 5 6 7 8 9 10

4. Even when course materials are dull and uninteresting, I manage to keep working until I finish.

   Not at all true of me — Very true of me

   1 2 3 4 5 6 7 8 9 10

SECTION 3: STRESS EXPOSURE

Please consider the following elements of student life and indicate overall to what extent they have been a part of your life over the past six months. Remember to use the examples as guidance rather than trying to consider each of them.

1. Challenges to your development (e.g. important decisions about your education and future career, dissatisfaction with your written or mathematical ability, struggling to meet your own or others' academic standards).

   Not at all — Very much so

1 2 3 4 5 6 7 8 9 10

2. Time pressures (e.g. too many things to do at once, interruptions of your school work, a lot of responsibilities).

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

3. Academic dissatisfaction (e.g. disliking your studies, finding courses uninteresting, dissatisfaction with school).

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

4. Romantic problems (e.g. decisions about intimate relationships, conflicts with boyfriends'/girlfriend's' family, conflict with boyfriend/girlfriend).

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

5. Societal annoyances (e.g. getting ripped off or cheated in the purchase of services, social conflicts over smoking, disliking fellow students).

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

6. Social mistreatment (e.g. social rejection, loneliness, being taken advantages of).

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

7. Friendship problems (e.g. conflicts with friends, being let down or disappointed by friends, having your trust betrayed by friends).

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

SECTION 4: TRAINING ATTITUDES (PDMS)

Please answer below statements in the context of Personal Development Meetings (PDMs)

1. When I am in the PDM, it is important for me to learn what is being taught in the PDM.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

2. When I am in the PDM, I am looking forward to learning the content of the PDM.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

3. When I am in the PDM, I think I will be able to use what I learn in everyday life.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

4. I think that what I am learning in the PDM is useful for me to know.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

5. I understand the knowledge and skills presented in the PDM better than before undertaking the PDM.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

6. I understand the importance of knowledge and skills presented in the PDM better than before undertaking the PDM.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

7. My knowledge and skills, which are taught in the PDM, were improved after undertaking the PDM.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

8. I will look for opportunities and use the techniques I learned in the PDM as much as I can.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

9. I will spend time thinking about how to use the knowledge and skills that I have learned in the PDM.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

10. Sometimes I feel uncomfortable when using the techniques I learned in the PDM.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

11. Sometimes I am confused whether to apply the new techniques/skills in the PDM or the techniques/skills that I usually used before undertaking the PDM.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

12. I often feel so lazy or bored when I study for the PDM that I quit before I finish what I planned to do.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

13. I work hard to do well in the PDM even if I don't like what we are doing.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

14. When the PDM work is difficult, I give up or only study the easy parts.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

15. Even when the PDM materials are dull and uninteresting, I manage to keep working until I finish.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

SECTION 5: TRAINING ATTITUDES (ATS)

Please answer below statements in the context of Academic Tutorials (ATs).

1. When I am in the ATs, it is important for me to learn what is being taught in the ATs.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

2. When I am in the ATs, I am looking forward to learning the content of the ATs.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

3. When I am in the ATs, I think I will be able to use what I learn in everyday life.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

4. I think that what I am learning in the ATs is useful for me to know.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

5. understand the knowledge and skills presented in the ATs better than before undertaking the ATs.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

6. I understand the importance of knowledge and skills presented in the ATs better than before undertaking the ATs.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

7. My knowledge and skills, which are taught in the ATs, were improved after undertaking the ATs.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

8. I will look for opportunities and use the techniques I learned in the ATs as much as I can.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

9. I will spend time thinking about how to use the knowledge and skills that I have learned in the ATs.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

10. Sometimes I feel uncomfortable when using the techniques I learned in the ATs.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

11. Sometimes I am confused whether to apply the new techniques/skills in the ATs or the techniques/skills that I usually used before undertaking the ATs.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

12. I often feel so lazy or bored when I study for the ATs that I quit before I finish what I planned to do.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

13. I work hard to do well in the PDM even if I don't like what we are doing.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

14. When the ATs work is difficult, I give up or only study the easy parts.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

15. Even when the ATs materials are dull and uninteresting, I manage to keep working until I finish.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

SECTION 6: REACTION TOWARDS THE PROGRAMME (PDMS)

1. What is your overall reaction of the PDM?

Poor Excellent

1 2 3 4 5 6 7 8 9 10

2. How useful was the PDM content to your academic performance?

Not useful Very useful

1 2 3 4 5 6 7 8 9 10

3. My personal tutor is engaged with the aims of the PDM.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

4. My personal tutor is effective in teaching the knowledge and skills that are the focus of the PDM.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

5. My personal tutor effectively delivered the PDM material.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

6. My personal tutor did a good job of generating students' interaction.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

7. My personal tutor used a good variety of instructional methods.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

8. My personal tutor demonstrated a good understanding of the PDM material.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

SECTION 7: REACTION TOWARDS THE PROGRAMME (ATS)

1. What is your overall reaction of the ATs?

Poor Excellent

1 2 3 4 5 6 7 8 9 10

2. How useful was the ATs content to your academic performance?

Not useful Very useful

1 2 3 4 5 6 7 8 9 10

3. My tutor(s) is/are engaged with the aims of the ATs.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

4. My tutor(s) is/are effective in teaching the knowledge and skills that are the focus of the tutorials.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

5. My tutor(s) effectively delivered the tutorial(s) material.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

6. My tutor(s) did a good job of generating students' interaction.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

7. My tutor(s) used a good variety of instructional methods.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

8. My tutor(s) demonstrated a good understanding of the tutorial(s) material.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

SECTION 8: WELL-BEING

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mode; happiness)

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

DEBRIEF

Thank you for completing the questionnaire.

Thank you for your participation. As stated in the introduction, this survey is the second phase of the data collection, that aims to record your level of well-being, along with psychosocial characteristics and training variables. The objective of the project is to investigate the implication of Personal Development Meetings (PDMs) and Academic Tutorials (ATs) on students' well-being and academic performance.

The data that you have provided for the questionnaire will, therefore, be used:

1. in a longitudinal study that examines the influence of psychosocial characteristics on training variables, well-being, and academic performance;
2. to investigate the association between training variables (in the context of PDM and ATs) on students' well-being and academic performance;
3. to develop the next stage of study based on the result from this data.

Your responses to the questionnaire will be held indefinitely and totally anonymous; with no questionnaire will be traceable to an individual.
If you have any queries or concerns about the research, please contact either the researcher (Ms Norshaffika Izzaty Zaiedy Nor) or the supervisor (Professor Andy Smith) or School of Psychology Ethics Committee by using the contact details attached below.

Thank you again for your participation.

School of Psychology Ethics Committee
Tel: 029 2087 0360
Email: psychethics@cardiff.ac.uk

Ms Norshaffika Izzaty Zaiedy Nor
School of Psychology
Cardiff University
63 Park Place Cardiff CF10 3AS
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Prof Andy Smith
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Cardiff University
63 Park Place Cardiff CF10 3AS
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Email: smithap@cardiff.ac.uk

Thank you

Appendix E: Study 4

Questionnaire

Associations between Psychosocial Characteristics, Training Attitudes and Well-being in the Context of a Doctoral Academy Programme (Study 4)

Prepared By

Norshaffika Izzaty Zaiedy Nor

Doctoral student

Supervisor

Prof. Andy Smith

Centre for Occupational and Health Psychology (OCHP)

School of Psychology

Cardiff University

INFORMED CONSENT

I understand that my participation in this project will involve completing a questionnaire about my psychosocial characteristics, training variables (motivation to learn, learning, implementation intention, and cognitive dissonance in the context of Doctoral Academy Programme), and well-being, which will take approximately 7 minutes to complete.

I understand that my participation in this study is voluntary and I may withdraw from the study at any time without giving any reason.

I understand that I am free to not responding to any question that I feel uncomfortable answering and that I can discuss my concerns with Ms Norshaffika Izzaty Zaiedy Nor or Professor Andy Smith at the below-mentioned email addresses, or The School Research Ethics Committee, Cardiff University.

I understand that the information that I provide will be held confidentially and eventually anonymously so that it is impossible to trace this information back to me individually.

I also understand that at the end of the study I will be provided with additional information and feedback about the purpose of the study.

By checking the box below and continuing, I consent to participate in the study conducted by Ms Norshaffika Izzaty Zaiedy Nor (Doctoral Student), School of Psychology, Cardiff University, Wales, the United Kingdom under the supervision of Professor Andy Smith.

I have read and understood the above statement and agree to participate. ☐

Contact details:

Ms Norshaffika Izzaty Zaiedy Nor

School of Psychology

Cardiff University

63 Park Place Cardiff CF10 3AS

Tel: 07427061462

Email: ZaiedyNorN@cardiff.ac.uk

Prof Andy Smith

School of Psychology

Cardiff University

63 Park Place Cardiff CF10 3AS

Tel: 029 2087 4757

Email: smithap@cardiff.ac.uk

INSTRUCTIONS

Thank you for agreeing to participate in this study. The aim of this study is to investigate the effects of Doctoral Academy Programme on students' well-being.

This study has 2 phases of data collection. Study Time 1 will ask students about personal characteristics and well-being at baseline, also transcript of attending the programme, at the start of the academic year. Study Time 2, at the end of semester 1, will ask the students about course/job characteristics, training variables, overall reactions, well-being and again transcript of attending the programme.

This questionnaire measures psychosocial characteristics (personality, coping, affect, course characteristics, model student, commitment, effort regulation and stressors); training variables (motivation to learn, learning, implementation intention, and cognitive dissonance in the context of Doctoral Academy Programme); and well-being.

We would like to request that you be as open and honest as possible with your responses and to avoid any perception of what you think a desirable answer might be. There are no right or wrong answers, but the reliability of the data depends on your honest and accurate responses. Therefore, please just answer according to your opinion and your situation. Please try to make sure you have not inadvertently missed out any questions, and read the instruction for each section carefully.

Finally, we remind you that you are free to withdraw from the study at any point and if you feel uncomfortable answering any of the questions, you are free to not respond to those questions.

Thank you again for your participation.

PRE-TEST (TIME 1)

SECTION 1: DEMOGRAPHIC INFORMATION

1. Gender:
    - Male
    - Female
2. Birth year: …….
3. Race/Ethnicity:
    - White (English / Welsh / Scottish / Northern Irish / British)
    - White (Other)
    - Asian / Asian British
    - Black / African / Caribbean / Black British
    - Mixed / multiple ethnic groups
    - Other ethnic group (Please specify): ……
4. Nationality: …….
5. Native speaker:
    - Yes
    - No
6. Native speaker:
    - Yes
    - No

SECTION 2: PSYCHOSOCIAL CHARACTERISTICS

1. To what extent do you cope with problems in a positive way (e.g. you focus on the problem and try to solve it; you got social support)?

    Not at all Very much so

    1 2 3 4 5 6 7 8 9 10

2. To what extent do you cope with problems in a passive way (e.g. avoid them, use wishful thinking; blame yourself)?

    Not at all Very much so

    1 2 3 4 5 6 7 8 9 10

3. Do you think you have a positive personality (e.g. open; conscientiousness; extravert; agreeable; stable; high self-esteem; optimistic)?

    Not at all Very much so

1 2 3 4 5 6 7 8 9 10

SECTION 3: WELL-BEING

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mode; happiness)

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

POST-TEST (TIME 2)

SECTION 1: PSYCHOSOCIAL CHARACTERISTICS

1. To what extent does your course/research have negative characteristics (e.g. high demands; requires a lot of effort; little consultation on change; role conflict; issues with other members of course)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

2. To what extent does your course/research have positive characteristics (e.g. control over what you do or how you do it; support from a classmate; support from teachers; appropriate rewards)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

3. Are you a model student (e.g. helping; courteous; a good sport)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

4. Are you committed to your university (e.g. high study satisfaction; a motivated student who does not intend to quit study)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

SECTION 2: EFFORT REGULATION

1. I often feel so lazy or bored when I do my research that I quit before I finish what I planned to do.

   Not at all true of me Very true of me

   1 2 3 4 5 6 7 8 9 10

2. I work hard to do well in this research even if I don't like what I am doing.

   Not at all true of me Very true of me

   1 2 3 4 5 6 7 8 9 10

3. When research work is difficult, I give up or only do the easy parts.

   Not at all true of me Very true of me

   1 2 3 4 5 6 7 8 9 10

4. Even when research materials are dull and uninteresting, I manage to keep working until I finish.

   Not at all true of me Very true of me

   1 2 3 4 5 6 7 8 9 10

SECTION 3: STRESS EXPOSURE

Please consider the following elements of student life and indicate overall to what extent they have been a part of your life over the past six months. Remember to use the examples as guidance rather than trying to consider each of them.

1. Challenges to your development (e.g. important decisions about your education and future career, dissatisfaction with your written or mathematical ability, struggling to meet your own or others' academic standards).

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

2. Time pressures (e.g. too many things to do at once, interruptions of your school work, a lot of responsibilities).

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

3. Academic dissatisfaction (e.g. disliking your studies, finding courses uninteresting, dissatisfaction with school).

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

4. Romantic problems (e.g. decisions about intimate relationships, conflicts with boyfriends'/girlfriend's' family, conflict with boyfriend/girlfriend).

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

5. Societal annoyances (e.g. getting ripped off or cheated in the purchase of services, social conflicts over smoking, disliking fellow students).

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

6. Social mistreatment (e.g. social rejection, loneliness, being taken advantages of).

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

7. Friendship problems (e.g. conflicts with friends, being let down or disappointed by friends, having your trust betrayed by friends).

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

SECTION 4: TRAINING ATTITUDES (DAP)

Please answer below statements in the context of Doctoral Academy Programme (DAP).

1. When I am in the Doctoral Academy Programme, it is important for me to learn what is being taught in the programme/workshops.

Strongly disagree									Strongly agree

1 2 3 4 5 6 7 8 9 10

2. When I am in the Doctoral Academy Programme, I am looking forward to learning the content of the programme/workshops.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

3. When I am in the Doctoral Academy Programme, I think I will be able to use what I learn in everyday life.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

4. I think that what I am learning in the Doctoral Academy Programme is useful for me to know.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

5. I understand the knowledge and skills presented in the Doctoral Academy Programme better than before undertaking the programme/workshops.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

6. I understand the importance of knowledge and skills presented in the Doctoral Academy Programme better than before undertaking the programme/workshops.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

7. My knowledge and skills, which are taught in the Doctoral Academy Programme, were improved after undertaking the programme/workshops.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

8. I will look for opportunities and use the techniques I learned in the Doctoral Academy Programme as much as I can.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

9. I will spend time thinking about how to use the knowledge and skills that I have learned in the Doctoral Academy Programme.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

10. Sometimes I feel uncomfortable when using the techniques I learned in the Doctoral Academy Programme.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

11. Sometimes I am confused whether to apply the new techniques/skills in the Doctoral Academy Programme or the techniques/skills that I usually used before undertaking the programme/workshops

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

.

SECTION 5: REACTION TOWARDS THE PROGRAMME (DAP)

1. What is your overall reaction of the Doctoral Academy Programme?

Poor Excellent

1 2 3 4 5 6 7 8 9 10

2. How useful was the Doctoral Academy Programme content to your research performance/progress?

Not useful Very useful

1 2 3 4 5 6 7 8 9 10

3. The programme/workshops trainers are engaged with the aims of the Doctoral Academy Programme.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

4. The programme/workshops trainers are effective in teaching the knowledge and skills that are the focus of the Doctoral Academy Programme.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

5. The programme/workshops trainers effectively delivered the programme/workshops material.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

6. The programme/workshops trainers did a good job of generating students' interaction.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

7. The programme/workshops trainers used a good variety of instructional methods.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

8. The programme/workshops trainers demonstrated a good understanding of the programme/workshops material.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

SECTION 8: WELL-BEING

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mode; happiness)

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

DEBRIEF

Thank you for completing the questionnaire.

Thank you for your participation. As stated in the introduction, this survey is the second phase of the data collection, that aims to record your level of well-being, along with psychosocial characteristics and training variables. The objective of the project is to investigate the implication of the Doctoral Academy Programme on students' well-being.

The data that you have provided for the questionnaire will, therefore, be used:

1. in a longitudinal study that examines the influence of psychosocial characteristics on training variables and well-being;
2. to investigate the association between training variables (in the context Doctoral Academy Programme) on students' well-being;
3. to develop the next stage of study based on the result from this data.

Your responses to the questionnaire will be held indefinitely and totally anonymous; with no questionnaire will be traceable to an individual.

If you have any queries or concerns about the research, please contact either the researcher) Ms Norshaffika Izzaty Zaiedy Nor) or the supervisor (Prof Andy Smith) or School of Psychology Ethics Committee by using contact details attached below.

Thank you again for your participation.

School of Psychology Ethics Committee
Tel: 029 2087 0360
Email: psychethics@cardiff.ac.uk

Ms Norshaffika Izzaty Zaiedy Nor
School of Psychology
Cardiff University
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Email: ZaiedyNorN@cardiff.ac.uk

Prof Andy Smith
School of Psychology
Cardiff University
63 Park Place Cardiff CF10 3AS
Tel: 029 2087 4757
Email: smithap@cardiff.ac.uk

Thank you

Appendix F: Study 5

Questionnaire

Associations between Psychosocial Characteristics, Training Attitudes and Well-being in the Context of Various Well-being Intervention Programmes (Study 5)

Prepared By

Norshaffika Izzaty Zaiedy Nor

Doctoral student

Supervisor

Prof. Andy Smith

Centre for Occupational and Health Psychology (OCHP)

School of Psychology

Cardiff University

INFORMED CONSENT

(Self-help resources)

I understand that my participation in this project will involve completing a questionnaire about my psychosocial characteristics, training variables (four attitudes towards training, reactions to the workshops, and transfer of training), and well-being, which will require approximately ten minutes of my time.

I understand that participation in this study is entirely voluntary and that I can withdraw from the study at any time without giving any reason. I also understand that I can withdraw my data from the study up to the point the data are anonymised by contacting the researcher.

I understand that I am free to ask any questions at any time. I am free to withdraw or discuss my concerns with the researcher, Ms Norshaffika Izzaty Zaiedy Nor or the supervisor, Professor Andy Smith at the below-mentioned email addresses, or The School Research Ethics Committee, Cardiff University.

I understand that the personal data will be processed in accordance with GDPR regulations (see privacy statement below).

I understand that at the end of the study, I will be provided with additional information and feedback about the purpose of the study.

By checking the box below and continuing, I consent to participate in the study conducted by Ms Norshaffika Izzaty Zaiedy Nor (Doctoral Student), School of Psychology, Cardiff University, Wales, the United Kingdom under the supervision of Professor Andy Smith.

I have read and understood the above statement and agree to participate. ☐

Privacy Notice:

The information provided will be held in compliance with GDPR regulations. Cardiff University is the data controller, and Matt Cooper is the data protection officer (inforequest@cardiff.ac.uk). The lawful basis for processing this information is public interest. This information is being collected by Ms Norshaffika Izzaty Zaiedy Nor.

The information on the consent form will be held securely and separately from the research information. Only the researcher will have access to this form, and it will be destroyed after 7 years.

The research information you provide will be used for the purposes of research only and will be stored securely. Only Ms Norshaffika Izzaty Zaiedy Nor and Prof. Andy Smith will have access to this information. After a year, the data will be anonymised (any identifying elements removed) and this anonymous information may be kept indefinitely or published.

Contact details:

Ms Norshaffika Izzaty Zaiedy Nor

School of Psychology

Cardiff University

63 Park Place Cardiff CF10 3AS

Tel: 07427061462

Email: ZaiedyNorN@cardiff.ac.uk

Prof Andy Smith

School of Psychology

Cardiff University

63 Park Place Cardiff CF10 3AS

Tel: 029 2087 4757

Email: smithap@cardiff.ac.uk

INSTRUCTIONS

(Self-help resources)

Thank you for agreeing to participate in this study. The main aim of the study is to investigate the association between psychosocial characteristics, training variables and well-being among university students. The training variables in this study will be in the context of self-help resources.

This study has three phases of data collection. Time 1 will be recorded prior to the self-help resources start and consists of items related to psychosocial characteristics and baseline level of well-being.

After you complete the survey at Time 1, you will be given a list of self-help resource links, and you are required to choose at least one link, and read the material until the end. Then, the Time 2 survey will be given, which consists of three sections. Section 1 emphasises three training attitudes while Sections 2 and 3 will focus on your reaction to the self-help, and your level of well-being, respectively. Lastly, Time 3, which will be administered one month after that, has four sections that consist of demographic information, cognitive dissonance, transfer of training, and well-being.

We would like to request that you be as open and honest as possible with your responses and to avoid any perception of what you think a desirable answer might be. There are no right or wrong answers, but the reliability of the data depends on your honest and accurate responses. Therefore, please simply answer according to your opinion and your situation. Please try to ensure that you have not inadvertently missed out any questions and read the instructions for each section carefully.

Finally, we remind you that you are free to withdraw from the study at any point and if you feel uncomfortable answering any of the questions, you are free to not respond to those questions.

Thank you again for your participation.

PRE-TEST (TIME 1)

SECTION 1: PSYCHOSOCIAL CHARACTERISTICS

1. To what extent does your course have negative characteristics (e.g. high demands; requires a lot of effort; little consultation on change; role conflict; issues with other members of course)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

2. To what extent does your course have positive characteristics (e.g. control over what you do or how you do it; support from classmate; support from teachers; appropriate rewards)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

3. Are you a model student (e.g. helping; courteous; a good sport)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

4. Are you committed to your university (e.g. high study satisfaction; a motivated student who does not intend to leave)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

5. To what extent do you try to cope with problems in a positive way (e.g. you focus on the problem and try to solve it; you get social support)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

6. To what extent do you try to cope with problems in a passive way (e.g. avoid them; use wishful thinking; blame yourself)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

7. Do you think you have a positive personality (e.g. open; conscientious; extravert; agreeable; stable; high self-esteem; high self-efficacy; optimistic)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

SECTION 2: WELL-BEING

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mood; happiness)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

POST-TEST (TIME 2)

SECTION 1: TRAINING ATTITUDES

Please answer below statements in the context of self-help resources.

1. When I am reading the self-help material, it is important for me to learn what is being taught in the self-help.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

2. When I am reading the self-help material, I am looking forward to learning the content of the self-help.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

3. When I am reading the self-help material, I think I will be able to use what I learn in everyday life.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

4. I think that the self-help material is useful for me to know.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

5. I understand the knowledge and skills presented in the self-help better than before undertaking the self-help.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

6. I understand the importance of knowledge and skills presented in the self-help better than before undertaking the self-help.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

7. My knowledge and skills, which are taught in the self-help, were improved after undertaking the self-help.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

8. I will look for opportunities and use the techniques I learned in the self-help as much as I can.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

9. I will spend time thinking about how to use the knowledge and skills that I have learned in self-help.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

SECTION 3: REACTION TOWARDS THE PROGRAMME

Please answer below statements in the context of self-help resources.

1. How effective is the self-help?

Not effective at all								Very effective	
1	2	3	4	5	6	7	8	9	10

2. I felt that the self-help material will be helpful in improving my level of well-being.

Strongly disagree								Strongly agree	
1	2	3	4	5	6	7	8	9	10

SECTION 4: WELL-BEING

Please answer below statements.

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mood; happiness)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

FOLLOW-UP (TIME 3)

SECTION 1: TRAINING ATTITUDES

1. Sometimes I feel uncomfortable when using the techniques I learned in the self-help.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

2. Sometimes I am confused whether to apply the new techniques/ skills in the self-help or the techniques/ skills that I usually used before undertaking the self-help.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

SECTION 2: TRANSFER OF TRAINING

1. I incorporate skills learned in the self-help into my daily activities.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

2. I use the techniques/skills presented in the self-help to help improve my well-being level.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

3. Please indicate the percentage of you that effectively apply and make use of what you learn in the self-help into your daily activities.

Less than 10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
1	2	3	4	5	6	7	8	9	10

SECTION 3: WELL-BEING

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mood; happiness)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

SECTION 4: DEMOGRAPHIC INFORMATION

1. Pre-test Code: …….
2. Gender:
    - Male
    - Female
3. Birth year: …….
4. Race/Ethnicity:
    - White (English / Welsh / Scottish / Northern Irish / British)
    - White (Other)
    - Asian / Asian British
    - Black / African / Caribbean / Black British
    - Mixed / multiple ethnic groups
    - Other ethnic group (Please specify): ……
5. Nationality: …….
6. Native speaker:
    - Yes
    - No
7. Native speaker:
    - Yes
    - No

INFORMED CONSENT

(Emotional Resilience Program)

I understand that my participation in this project will involve completing a questionnaire about my psychosocial characteristics, training variables (four attitudes towards training, reactions to the workshops, and transfer of training), and well-being, which will require approximately ten minutes of my time.

I understand that participation in this study is entirely voluntary and that I can withdraw from the study at any time without giving any reason. I also understand that I can withdraw my data from the study up to the point the data are anonymised by contacting the researcher.

I understand that I am free to ask any questions at any time. I am free to withdraw or discuss my concerns with the researcher, Ms Norshaffika Izzaty Zaiedy Nor or the supervisor, Professor Andy Smith at the below-mentioned email addresses, or The School Research Ethics Committee, Cardiff University.

I understand that the personal data will be processed in accordance with GDPR regulations (see privacy statement below).

I understand that at the end of the study, I will be provided with additional information and feedback regarding the purpose of the study.

By checking the box below and continuing, I consent to participate in the study conducted by Ms Norshaffika Izzaty Zaiedy Nor (Doctoral Student), School of Psychology, Cardiff University, Wales, the United Kingdom under the supervision of Professor Andy Smith.

I have read and understood the above statement and agree to participate. ☐

Cardiff email address:

Pre-test code:

Signature:

Privacy Notice:

The information provided will be held in compliance with GDPR regulations. Cardiff University is the data controller, and Matt Cooper is the data protection officer (inforequest@cardiff.ac.uk). The lawful basis for processing this information is public interest. This information is being collected by Ms Norshaffika Izzaty Zaiedy Nor.

The information on the consent form will be held securely and separately from the research information. Only the researcher will have access to this form, and it will be destroyed after 7 years.

The research information you provide will be used for the purposes of research only and will be stored securely. Only Ms Norshaffika Izzaty Zaiedy Nor and Prof. Andy Smith will have access to this information. After a year, the data will be anonymised (any identifying elements removed) and this anonymous information may be kept indefinitely or published.

Contact details:

Ms Norshaffika Izzaty Zaiedy Nor

School of Psychology

Cardiff University

63 Park Place Cardiff CF10 3AS

Tel: 07427061462

Email: ZaiedyNorN@cardiff.ac.uk

Prof Andy Smith

School of Psychology

Cardiff University

63 Park Place Cardiff CF10 3AS

Tel: 029 2087 4757

Email: smithap@cardiff.ac.uk

INSTRUCTIONS

Thank you for agreeing to participate in this study. The main aim of the study is to investigate the association between psychosocial characteristics, training variables and well-being among university staff/students.

This research has three phases of data collection. Time 1 will be recorded prior to the workshops/program start and comprises items related to psychosocial characteristics and baseline level of well-being. Meanwhile, at Time 2, which will be held immediately after the workshops end, consists of three sections. Section 1 emphasises three training attitudes while Sections 2 and 3 will focus on participants' reaction to the workshops, and their level of well-being, respectively. Lastly, Time 3, which will be administered one month after that, has four sections comprising cognitive dissonance, transfer of training, well-being, and demographic information.

You will be given a pre-test code as the participant's identification and this code will be used throughout the process of the data collection. Please keep the pre-test code safely.

We would like to request that you be as open and honest as possible with your responses and to avoid any perception of what you think a desirable answer might be. There are no right or wrong answers, but the reliability of the data depends on your honest and accurate responses. Therefore, please simply answer according to your opinion and your situation. Please try to ensure that you have not inadvertently missed out any questions and read the instructions for each section carefully.

Finally, we remind you that you are free to withdraw from the study at any point and if you feel uncomfortable answering any of the questions, you are free to not respond to those questions.

Thank you again for your participation.

PRE-TEST (TIME 1)

SECTION 1: DEMOGRAPHIC INFORMATION

1. Age: ……..
2. Gender:
   - Male
   - Female
3. Race/Ethnicity:
   - White (English / Welsh / Scottish / Northern Irish / British)
   - White (Other)
   - Asian / Asian British
   - Black / African / Caribbean / Black British
   - Mixed / multiple ethnic groups
   - Other ethnic group
4. Nationality: ……
5. Native speaker:
   - Yes
   - No

SECTION 2: PSYCHOSOCIAL CHARACTERISTICS

1. To what extent do you try to cope with problems in a positive way (e.g. you focus on the problem and try to solve it; you get social support)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

2. To what extent do you try to cope with problems in a passive way (e.g. avoid them; use wishful thinking; blame yourself)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

3. Do you think you have a positive personality (e.g. open; conscientious; extravert; agreeable; stable; high self-esteem; high self-efficacy; optimistic)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

SECTION 3: WELL-BEING

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mood; happiness)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

POST-TEST (TIME 2)

SECTION 1: TRAINING ATTITUDES

Please answer below statements in the context of Emotional Resilience program (provided by the counsellors).

1. When I am in the program, it is important for me to learn what is being taught in the program.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

2. When I am in the program, I am looking forward to learning the content of the program.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

3. When I am in the program, I think I will be able to use what I learn in everyday life.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

4. I think that what I am learning in the program is useful for me to know.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

5. I understand the knowledge and skills presented in the program better than before undertaking the program.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

6. I understand the importance of knowledge and skills presented in the program better than before undertaking the program.

   Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

7. My knowledge and skills, which are taught in the program, were improved after undertaking the program.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

8. I will look for opportunities and use the techniques I learned in the program as much as I can.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

9. I will spend time thinking about how to use the knowledge and skills that I have learned in program.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

SECTION 2: REACTION TOWARDS THE PROGRAMME

Please answer below statements in the context of Emotional Resilience program (provided by the counsellors).

1. How effective is this program?

   Not effective at all Very effective

   1 2 3 4 5 6 7 8 9 10

2. I felt that the program material will be helpful in improving my level of well-being.

   Strongly disagree Strongly agree

   1 2 3 4 5 6 7 8 9 10

SECTION 3: WELL-BEING

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mood; happiness)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

FOLLOW-UP (TIME 3)

SECTION 1: PSYCHOSOCIAL CHARACTERISTICS

1. To what extent does your course have negative characteristics (e.g. high demands; requires a lot of effort; little consultation on change; role conflict; issues with other members of course)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

2. To what extent does your course have positive characteristics (e.g. control over what you do or how you do it; support from classmate; support from teachers; appropriate rewards)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

3. Are you a model student (e.g. helping; courteous; a good sport)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

4. Are you committed to your university (e.g. high study satisfaction; a motivated student who does not intend to leave)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

SECTION 2: TRAINING ATTITUDES

Please answer below statements in the context of Emotional Resilience program (provided by the counsellors).

1. Sometimes I feel uncomfortable when using the techniques I learned in the program.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

2. Sometimes I am confused whether to apply the new techniques/ skills in the program or the techniques/ skills that I usually used before undertaking the program.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

SECTION 3: TRANSFER OF TRAINING

Please answer below statements in the context of Emotional Resilience program (provided by the counsellors).

1. I incorporate skills learned in the program into my daily activities.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

2. I use the techniques/skills presented in the program to help improve my well-being level.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

3. Please indicate the percentage of you that effectively apply and make use of what you learn in the program into your daily activities.

Less than 10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
1	2	3	4	5	6	7	8	9	10

SECTION 3: WELL-BEING

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mood; happiness)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

INFORMED CONSENT

(Well-being Workshops)

I understand that my participation in this project will involve completing a questionnaire about my psychosocial characteristics, training variables (four attitudes towards training, reactions to the workshops, and transfer of training), and well-being, which will require approximately ten minutes of my time.

I understand that participation in this study is entirely voluntary and that I can withdraw from the study at any time without giving any reason. I also understand that I can withdraw my data from the study up to the point the data are anonymised by contacting the researcher.

I understand that I am free to ask any questions at any time. I am free to withdraw or discuss my concerns with the researcher, Ms Norshaffika Izzaty Zaiedy Nor or the supervisor, Professor Andy Smith at the below-mentioned email addresses, or The School Research Ethics Committee, Cardiff University.

I understand that the personal data will be processed in accordance with GDPR regulations (see privacy statement below).

I understand that at the end of the study, I will be provided with additional information and feedback regarding the purpose of the study.

By checking the box below and continuing, I consent to participate in the study conducted by Ms Norshaffika Izzaty Zaiedy Nor (Doctoral Student), School of Psychology, Cardiff University, Wales, the United Kingdom under the supervision of Professor Andy Smith.

I have read and understood the above statement and agree to participate. ☐

Cardiff email address:
Pre-test code:
Signature:

Privacy Notice:

The information provided will be held in compliance with GDPR regulations. Cardiff University is the data controller, and Matt Cooper is the data protection officer (inforequest@cardiff.ac.uk). The lawful basis for processing this information is public interest. This information is being collected by Ms Norshaffika Izzaty Zaiedy Nor.

The information on the consent form will be held securely and separately from the research information. Only the researcher will have access to this form, and it will be destroyed after 7 years.

The research information you provide will be used for the purposes of research only and will be stored securely. Only Ms Norshaffika Izzaty Zaiedy Nor and Prof. Andy Smith will have access to this information. After a year, the data will be anonymised (any identifying elements removed) and this anonymous information may be kept indefinitely or published.

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Tel: 029 2087 4757

Email: smithap@cardiff.ac.uk

INSTRUCTIONS

(Well-being Workshops)

Thank you for agreeing to participate in this study. The main aim of the study is to investigate the association between psychosocial characteristics, training variables and well-being among university staff.

This research has three phases of data collection. Time 1 will be recorded prior to the workshops/program start and comprises items related to psychosocial characteristics and baseline level of well-being. Meanwhile, at Time 2, which will be held immediately after the workshops end, consists of three sections. Section 1 emphasises three training attitudes while Sections 2 and 3 will focus on participants' reaction to the workshops, and their level of well-being, respectively. Lastly, Time 3, which will be administered one month after that, has four sections comprising cognitive dissonance, transfer of training, well-being, and demographic information.

You will be given a pre-test code as the participant's identification and this code will be used throughout the process of the data collection. Please keep the pre-test code safely.

We would like to request that you be as open and honest as possible with your responses and to avoid any perception of what you think a desirable answer might be. There are no right or wrong answers, but the reliability of the data depends on your honest and accurate responses. Therefore, please simply answer according to your opinion and your situation. Please try to ensure that you have not inadvertently missed out any questions and read the instructions for each section carefully.

Finally, we remind you that you are free to withdraw from the study at any point and if you feel uncomfortable answering any of the questions, you are free to not respond to those questions.

Thank you again for your participation.

PRE-TEST (TIME 1)

SECTION 1: PSYCHOSOCIAL CHARACTERISTICS

1. To what extent does your job have negative characteristics (e.g. high demands; requires a lot of effort; little consultation on change; role conflict; issues with other members of staff)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

2. To what extent does your job have positive characteristics (e.g. control over what you do or how you do it; support from colleagues; support from managers; appropriate rewards)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

3. Are you a model employee (e.g. helping; courteous; a good sport)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

4. Are you committed to your organisation (e.g. high job satisfaction; a motivated employee who does not intend to leave)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

5. To what extent do you try to cope with problems in a positive way (e.g. you focus on the problem and try to solve it; you get social support)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

6. To what extent do you try to cope with problems in a passive way (e.g. avoid them; use wishful thinking; blame yourself)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

7. Do you think you have a positive personality (e.g. open; conscientious; extravert; agreeable; stable; high self-esteem; high self-efficacy; optimistic)?

   Not at all Very much so

   1 2 3 4 5 6 7 8 9 10

SECTION 2: WELL-BEING

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mood; happiness)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

POST-TEST (TIME 2)

SECTION 1: TRAINING ATTITUDES

Please answer below statements in the context of Wellbeing Workshops (provided by staff well-being team).

1. When I am in the workshop, it is important for me to learn what is being taught in the workshop.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

2. When I am in the workshop, I am looking forward to learning the content of the workshop.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

3. When I am in the workshop, I think I will be able to use what I learn in everyday life.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

4. I think that what I am learning in the workshop is useful for me to know.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

5. I understand the knowledge and skills presented in the workshop better than before undertaking the workshop.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

6. I understand the importance of knowledge and skills presented in the workshop better than before undertaking the workshop.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

7. My knowledge and skills, which are taught in the workshop, were improved after undertaking the workshop.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

8. I will look for opportunities and use the techniques I learned in the workshop as much as I can.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

9. I will spend time thinking about how to use the knowledge and skills that I have learned in workshop.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

SECTION 2: REACTION TOWARDS THE PROGRAMME

Please answer below statements in the context of Wellbeing Workshops.

1. How effective is this workshop?

Not effective at all Very effective

1 2 3 4 5 6 7 8 9 10

2. I felt that the workshop material will be helpful in improving my level of well-being.

Strongly disagree Strongly agree

1 2 3 4 5 6 7 8 9 10

SECTION 3: WELL-BEING

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mood; happiness)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

Not at all Very much so

1 2 3 4 5 6 7 8 9 10

FOLLOW-UP (TIME 3)

SECTION 2: TRAINING ATTITUDES

Please answer below statements in the context of Wellbeing Workshops.

1. Sometimes I feel uncomfortable when using the techniques I learned in the workshop.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

2. Sometimes I am confused whether to apply the new techniques/ skills in the workshop or the techniques/ skills that I usually used before undertaking the workshop.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

SECTION 2: TRANSFER OF TRAINING

Please answer below statements in the context of Wellbeing Workshops.

1. I incorporate skills learned in the workshops into my daily activities.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

2. I use the techniques/skills presented in the workshop to help improve my well-being level.

Strongly disagree									Strongly agree
1	2	3	4	5	6	7	8	9	10

3. Please indicate the percentage of you that effectively apply and make use of what you learn in the workshop into your daily activities.

Less than 10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
1	2	3	4	5	6	7	8	9	10

SECTION 3: WELL-BEING

1. In life generally, do you have a high level of well-being (e.g. high satisfaction; a positive mood; happiness)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

2. In life generally, do you have a low level of well-being (e.g. stress; anxiety; depression)?

Not at all									Very much so
1	2	3	4	5	6	7	8	9	10

SECTION 4: DEMOGRAPHIC INFORMATION

1. Age: …… years
2. Gender:
    - Male
    - Female
3. Current Status: (Please tick one box only):
    - Single
    - Separated
    - Living Partner
    - Divorced
    - Married
    - Widowed
4. Please select the furthest level of education you have completed:
    - Secondary Education (GCSE/0-Levels)
    - Post-Secondary Education (Collage, A-Levels, NVQ3 or below, or similar)
    - Vocational Qualification (Diploma, Certificate, BTEC, NVQ4 and above, or similar)
    - Undergraduate Degree (BA, BSc etc.)
    - Post-Graduate Degree (MA, MBA, MSc etc.)
    - Doctorate (Ph.D)
    - None of these (Please specify): ……
5. Race/Ethnicity:
    - White (English / Welsh / Scottish / Northern Irish / British)
    - White (Other)
    - Asian / Asian British
    - Black / African / Caribbean / Black British
    - Mixed / multiple ethnic groups
    - Other ethnic group (Please specify): ……

DEBRIEF

Thank you for completing the questionnaire.

Thank you for your participation. As stated in the introduction, the objective of the study is to investigate the association between psychosocial characteristics, training variables and well-being among university staff and students.

The data that you have provided for the questionnaire will, therefore, be used to:

1. Examine the influence of psychosocial characteristics on training variables and well-being
2. Investigate the association between training variables (in the context of various well-being interventions) on well-being level
3. Examine the changes of well-being over time

Your responses to the questionnaire will be held confidentially and indefinitely, and no questionnaire will be traceable to an individual.

If you have any queries or concerns about the research, please contact either the researcher (Ms Norshaffika Izzaty Zaiedy Nor) or the supervisor (Professor Andy Smith) or the School of Psychology Ethics Committee by using the contact details attached below.

Thank you again for your participation.

School of Psychology Ethics Committee
Tel: 029 2087 0360
Email: psychethics@cardiff.ac.uk

Contact details:

Ms Norshaffika Izzaty Zaiedy Nor
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Thank you