



Critical moments? Life transitions and energy biographies



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ABSTRACT

Family and youth research has highlighted the importance of lifecourse transitions, illustrating how they can have a substantial impact on people's everyday lives and anticipated futures. Given their apparent significance, it is surprising that relatively little attention has been paid to life transitions – particularly unexpected ones – to explore how they can impact upon everyday energy use. This is a central concern of Energy Biographies project. The project's qualitative longitudinal design makes an original contribution, affording a detailed view of how transitions unfold and their significance for energy demand and environmental action. Central to elucidating these issues is the concept of 'linked lives', recognising that people live interdependently. In this paper, we explore the accounts of three participants who experienced one or more life transitions during the course of the project, in order to consider the impacts of these events (both planned and unanticipated) on their everyday energy use and environmental actions as part of their linked lives with others.

1. Introduction

Life transitions (such as leaving home, becoming a parent or retiring) have been a key focus of enquiry in families and youth research, where events have been considered for their significance in personal life trajectories (Gordon et al., 2005). In this paper, we seek to explore the experiences of life transitions in relation to energy use, drawing on the concept of 'linked lives'. A range of terms have been used to refer to life transitions and the opportunities for change they may present, as we explore in this introductory overview. For example, some have drawn on analytic concepts of critical or fateful moments. Giddens (1991) describes 'fateful moments' as times when an individual stands at a crossroads in existence, or when a person learns information with fateful consequences. Giddens' (1991: 113), notes that fateful moments can be both engineered or happenstance and are 'phases at which things are wrenched out of joint, where a given state of affairs is suddenly altered by a few key events'. Giddens' work has been revisited by Holland and Thomson (2009), who attempt to operationalise his concept by identifying narrative turning points (termed 'critical moments') in biographical accounts and evaluating whether these were 'fateful' or not, highlighting the difficulties of doing this in practice. Critical moments are described as being events understood (either by the

participant or the researcher) as having important consequences for the participant's life and identity, for example, moving house or bereavement. However, beyond major life events, more mundane changes can also have far-reaching implications for how participants live their everyday lives. In this paper we seek to move beyond a focus on these critical moments to explore the impact of both planned and unexpected life transitions, as well as everyday processes of change, on direct energy use (i.e. heating, electricity use) and environmental actions, by which we mean actions connected to energy use but less directly related (e.g. recycling, sustainable travel choices).

The relevance of exploring life transitions in relation to energy use has been indicated by Verplanken and Wood (2006) who suggest that interventions will be most effective when paired with environmental changes that disrupt existing habits, or applied during naturally occurring periods of change, such as moving house or changing job (see also Bone et al., 2011). This assertion is based on recognition of the wider significance of individual habits; that the small actions and decisions people make in everyday life have an impact beyond any single occurrences. Subsequent quantitative work has explored links between life events and changes in travel behaviour (Thomas et al., 2016) suggesting that residential relocation and changes in employment have the greatest impact on travel behaviour (Rau and Manton, 2016). Some

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authors have emphasised the role of life transitions as a ‘window of opportunity’ (i.e. an opportune moment for intervention) for changing consumption towards more sustainable patterns (Bamberg, 2006). In their mixed methods study, Schäfer et al. (2012) considered whether life transitions can be a starting point for sustainability interventions. They conclude that the period before the life event (or ‘preparation phase’) is crucial for such interventions. However, this raises a challenge for studying unexpected transitions, as we discuss further below.

A report by the New Economics Foundation (NEF) for the UK Department of Food and Rural Affairs (Thompson et al., 2011) provides a review of evidence on personal life events as ‘moments of change’. Moments of change have been described as when the circumstances of an individual’s life change considerably (Burningham et al., 2014) where existing habits and behavioural patterns are disrupted (Thompson et al., 2011), which may represent opportune moments for sustainability interventions (Hards, 2012a), thus showing similarity to the concept of ‘windows of opportunity’. Whilst the NEF report indicates evidence of everyday change as a result of these life transitions (such as changes in travel behaviour when moving house), the authors conclude that further evidence is needed in relation to ‘moments of change’. Qualitative work in this area is growing. For example, studies have explored the impact of life transitions – such as becoming a parent – for different aspects of everyday life that have environmental implications (Spinney, 2012; Burningham et al., 2014). Paddock (2015) suggests that changes in cooking practices are clearly linked to lifecycle events such as changing work patterns, cohabitation, and the arrival of a child. Related to such events are altered driving patterns, and the purchase of new domestic technologies such as tumble dryers or a large fridge/freezer, which clearly have implications for energy use. Retirement has also been considered as a lifecourse transition with repercussions for energy use and action towards sustainability, as changes to time use and available income may hold implications for consumption patterns (Venn et al., 2015). These studies have brought about important insights but have tended to focus on anticipated life transitions, whilst unexpected changes have received much less attention. However, as we have previously considered (Shirani and Henwood, 2011), unplanned transitions can have far-reaching impacts on lives and identities, including the ability to imagine and plan for the future. Consequently, this disruption to everyday life and longer-term planning could have significant implications for energy use. In this paper we avoid terminology that uses the word ‘moment’ as this invokes a fixed before and after time point. Instead, like Burningham et al. (2014) we recognise that the process of change is ongoing, and this is illuminated through a qualitative longitudinal approach.

The study of transitions is a central element of lifecourse perspectives, which take a temporally sensitive approach, exploring ‘the ways that the meaning of lives in progress is established in the give-and-take of daily living’ (Holstein and Gubrium, 2000:1). Holstein and Gubrium suggest that the lifecourse is not a given feature of human experience but a representational tool crafted and used in the process of interpreting personal experience through time. The lifecourse approach, described as the pre-eminent theoretical orientation in the study of lives (Elder et al., 2003), considers the significance of personal life transitions. Alongside the exploration of transitions and their impacts, the concept of ‘linked lives’ is central to lifecourse theory. This refers to the way that human lives are embedded in social relationships with kin and friends across the life span (Elder, 1994), acknowledging interdependency. Linked lives refers to the interaction between the individual’s social worlds, such as family, friends and co-workers, over the life span, therefore transitions in one person’s life can have implications for another (e.g. becoming a parent also means one’s own parents becoming grandparents). The concept of linked lives highlights the need to attend to the social relationships that individuals are embedded within. Considering sustainability, Gibson et al. (2011) argue that it is important to understand households as social assemblages where people are emotionally invested in bonds with others, which

would appear to be in line with the concept of linked lives in highlighting interconnectedness. Our previous work has explored how care for and meeting the needs of family members can be related to managing everyday energy consumption (Groves et al., 2016). Issues relating to care are therefore pertinent in discussion of linked lives and energy use and will be explored further in this analysis, particularly in relation to heat. There are myriad reasons why people manage domestic heat in the ways they currently do (Hitchings et al., 2015) and we suggest that linked lives and care for others are vital for understanding this.

In the following analysis we aim to show the impact of life transitions on energy-related practices, considering how the implications of these changes unfolded over the course of our longitudinal study. Rather than consider particular life transitions as moments of change, as much of the existing literature has, we explore processes of change as well as the impact of unplanned transitions. In detailing these cases, we highlight linked lives as an important concept for considering the impact of life changes on energy demand. In doing this we are aiming to follow the calls in recent work to recognise the importance of all household members and take family relationships more seriously (Burningham et al., 2014), to provide better understanding of the everyday socio-cultural contexts within which dynamic household decisions, experiences and practices are embedded (Waitt et al., 2012).

2. Methodological approach

Existing qualitative research in this area has highlighted the need for future studies to take more temporally-sensitive approaches, which consider whole biographies (Hards, 2012b; Butler et al., 2014) – i.e. to include past experiences and anticipated futures – and track the same people over time from before change occurs (Thompson et al., 2011). The qualitative longitudinal (hereafter QL) design of Energy Biographies allows us to address some of these issues, which we explore here in the context of individual case studies of life changes. Energy Biographies involved participants from four case site areas across Wales and England. Semi-structured interviews exploring themes such as everyday routines, significant life transitions, and energy use in the future were conducted on three occasions over a one-year period. In total, 74 people participated in first round interviews and a sub-sample of 36 took part in two further rounds of interviews. In the subsequent interviews participants were invited to reflect on the life changes they had experienced since the previous research encounter. Between interviews, participants were also involved in multimodal activities designed to evoke further insights into energy use through the lifecourse (for more detail on methodological approach and multimodal activities see Shirani et al., 2016). The interviews were transcribed and coded thematically using Nvivo software, in addition to undertaking narrative forms of analysis, where the narrative of the transcripts is retained and the participant accounts read as a whole to form case biographies (Butler et al., 2014). The analysis presented here is diachronic; looking at individual accounts at different points in time (Elliott et al., 2008), in order to explore the meaning of changes in everyday life across three participants’ accounts.

By revisiting people on multiple occasions, analysing change over time is the specific contribution of longitudinal methodology (Saldaña, 2003; Corden and Millar, 2007). As such, here we choose to focus on three individuals and their stories over time. This further enables us to consider how things that take place in personal life can have consequences that go beyond that sphere (Henderson et al., 2007). By purposefully selecting a few lives and offering detailed descriptions of their experiences, what emerges is the discovery of shared processes, or commonalities of experience, which have a broader significance than the lives of a small number of individuals (Smart, 2007). All participants experienced some changes over the course of the project. In this analysis our focus is on three female participants. Although some elements of their accounts have associations with typically gendered practices (e.g. caring), we have selected their accounts for the detailed

and varied reflections they provide on life transitions, rather than on the basis of gender (Autio et al., 2009). Bringing together their accounts reflects the impact of both planned and unanticipated events in different spheres of life and at different times in their lifecourse.

In this paper, we include participants from three of the four Energy Biographies case site areas.¹ Phoebe² lives in Peterston-Super-Ely, an affluent commuter village on the outskirts of Cardiff, whilst Christine lives in Ely, a socially deprived inner-city ward of Cardiff. Although these two case sites have very different socioeconomic profiles, both areas had community groups that were active in campaigns connected to energy, particularly in relation to the installation of solar photovoltaic (PV) panels. In Ely, a community development organisation planned to set up a large ‘rent a roof’ style solar PV scheme where income generated through feed-in tariffs (FIT) would be used towards community development, however changes to the FITs made the scheme unviable (Parkhill et al., 2015). In Peterston, residents had formed a sustainable development group, engaged in activities such as litter picking and establishing a community orchard. They were also promoting solar PV but on an individual household investment basis. In contrast, Sarah lives in a rented social housing flat in London and was part of our ‘work-based’ case site; the Royal Free Hospital. The hospital has a number of carbon reduction and energy-saving strategies (such as a cycle to work scheme and energy information monitors, as well as larger infrastructure projects such as a combined heat and power facility, which supplied a local housing estate with waste heat) and participants in this case site were hospital employees. Whilst the three participants discussed here were aware of some of the campaigns and energy saving measures within their communities, these did not appear to be particularly important to their everyday lives. Instead we consider life transitions occurring over the course of the project that had implications for everyday living.

3. Exploring lives in transition

3.1. Phoebe

Phoebe was aged 18 when first interviewed, living at home with her parents and sister whilst doing her A-levels. Initially, Phoebe described herself as being environmentally conscious and energy aware, including, for example, promoting recycling as part of her prefect duties at school. This awareness also influenced her lifestyle at home:

Phoebe: I don’t turn the heating on in my bedroom, I’ve got about six blankets and a duvet at the moment so I haven’t been using the heating ... Just like boycotting heating just to try and be a little bit better. I know it’s probably not much but I don’t use it in my room, I don’t feel I need it.

Interviewer: And that’s for environmental reasons?

Phoebe: Yeah...I’ve always kind of been aware of it and then I think you just, I don’t know I’ve kind of always been like turning stuff off before but like with all, I suppose the greater awareness of it now with everyone sort of being a bit more aware I’ve just, I just don’t use it much.

Although Phoebe had chosen not to use the heating in her bedroom, she did describe turning this back on whenever her grandmother stayed in her room ‘so she wouldn’t get cold’. Whilst Phoebe highlights how greater awareness of environmental issues through education has had an influence on her, she draws a distinction with her sister, illustrating how the ability or willingness to act on this awareness is influenced by

¹ As the focus of this paper is incremental change, we do not include here participants from our fourth case site, the Lammas Tir y Gafel ecovillage, as they were undergoing multiple major life changes.

² All names used are pseudonyms.

linked others:

I think probably quite a lot of my friends are quite geeky and nerdy so we’re just a bit more aware that like my best friend Ceri has always been like recycling and trying to help more like using energy saving light bulbs... It’s not seen as a cool thing really. Well I’m not a very cool person, my sister is much more cool than me so she’s not, and like all her friends are not really aware of that kind of thing, well they are aware but they just don’t do it as much as like we do.

Here, Phoebe describes her environmental interests and actions as facilitated by a ‘geeky’ friendship group that shares similar views. In contrast, these interests are not supported by her sister’s ‘cooler’ group of friends where awareness does not seem to motivate pro-environmental action.

At the initial interview, Phoebe was waiting to hear about her university applications and was making plans for the summer after finishing her A-levels. She anticipated university being a very different way of life that would involve saving money for energy bills rather than clothes (as she had no bill paying responsibilities at home), which would take some getting used to. Phoebe was also planning her first trip abroad for her summer break. In light of this upcoming event, Phoebe was asked about her views on potential future travel restrictions to reduce carbon emissions from air traffic. Her response to these hypothetical restrictions was acceptance:

I think it would be a shame essentially because you wouldn’t be able to see as many places but they wouldn’t do it if it wasn’t necessary so it probably would have a good reasoning behind it.

By the second interview, Phoebe had finished school and was at home for the summer before starting university. She had recently been on her overseas holiday and this appeared to have an impact on her views about potential restrictions to travel:

I definitely want to travel more which obviously isn’t good for the environment but ... I think they’re just going to have to find maybe a more environmentally friendly plane or something cos I don’t think they’d be able to restrict it or anything or stop it ... well now I’ve started to travel, I think it’s good and I think it’s definitely worth doing, it’s really interesting and you get to see so much like great stuff. I think it shouldn’t be taken away.

Phoebe described herself as having ‘less motivation to do things’ and being ‘a bit lost’ without the structure of school, and seemed to have developed some sense of complacency around her ability to effect change.

I use the energy and I feel I can’t really do that much personally in the whole scale of things so I just sort of go along with what we’ve got.

At the third interview, Phoebe was home for the holidays after completing her first term at university, where she was living in student halls. Her bills were included in her accommodation fees so she had no financial incentive to reduce energy use, although she continued to turn the radiator off in her room most of the time and felt she would always want to ‘do my bit’. Despite this continuing action, Phoebe suggested her interest in environment and sustainability had waned somewhat:

Phoebe: I find it’s more harder to do because like the recycling bin [at university] you can’t recycle certain things like which you can recycle here [at parents’ house] so then it’s harder to work out what you can recycle so you don’t end up recycling as much. And I think that’s probably the main difference in that sense ... it’s faded more into the background... Probably because everything is so new and just like getting used to everything else you don’t really think about that.

Here Phoebe suggests that the significant life changes she has experienced in going to university have overshadowed her concerns about

and interest in environmental issues, which have ‘faded more into the background’. It thus appears that temporally immediate matters had taken precedence over concerns about environmental futures (see also Shirani et al., 2013). She also indicates that the lack of clear infrastructure to support her environmental choices has had an impact on the way she lives; for example, confusion over recycling facilities has meant she now recycles less.

In a discussion of her new social environment, Phoebe appears to be lacking the peer group support for environmental interests that she experienced at school, saying she had not discussed these issues with her new housemates.

It hasn't really come up so I wouldn't really know; they're not like big eco-warriors as such, like nothing major has come up so I haven't really noticed anything.

Phoebe's case shows how her commitment to energy and environmentalism alters alongside planned life transitions and resultant changes in her living environment and social groups. Her account also indicates the relevance of supportive surroundings, as she moved from an environmentally-engaged village with support for green activities, and a position of power at school to effect change (as a prefect) to a context where people appeared less interested in or supportive of these issues and she felt she had little power to make any difference. Alongside this, her experience of travelling altered her perceptions of energy use, positioning travel as something more important than she had previously imagined.

Leaving home for university represents a significant life change, which other studies have highlighted as a possible moment for intervention (Thompson et al., 2011). However, as Phoebe's case illustrates, it is important not to underestimate the significance of linked others and the social support for environmental interests (see also Bone et al., 2011). This change in Phoebe's views and practice was the result of a planned transition, but unexpected events can also have a significant impact, as our next case illustrates.

3.2. Christine

Christine, in her early fifties, lived with her husband and youngest child in a large house on the outskirts of our Ely case site area. The family had moved to the house several years earlier, motivated by particular accommodation requirements to cater for one of their children's disabilities. They were planning to downsize now that five of their children had left home.

The first interview with Christine occurred at a time of significant change as she had recently been made redundant. This coincided with the deterioration in health of her father-in-law, who subsequently moved in with the family, with Christine becoming his carer. She described how these changes had had a significant impact on household energy use:

[o]ur use of energy has increased a lot. Previously we went out to work, so we didn't do anything during the day; the house was dormant. But our recent history is obviously we've got my father-in-law, who is quite poorly, so we try and keep areas where he is regulated heat-wise but the rest of the property, we just keep on the timer ... when our son was home he couldn't maintain his own body temperature; he wasn't active, physically disabled, wheelchair user, we had to have that temperature constant, so that was always on 24 h a day and it was on often in the summer as well. We are having to revert back to that now because my father-in-law is in there now, so that's 24 h a day.

In this extract, Christine raises the different heating needs of her ill father-in-law, now living in the part of the house previously used to accommodate her disabled son, where the heating was required to be on constantly. Having a warm home was therefore associated with these caring responsibilities. In addition to the changes in heating noted here,

Christine also referred to increased use of electricity in the home, such as using the kettle, as well as lighting during the day. Whilst she described her husband's face going ‘ashen’ each time they received a heating bill, which were ‘huge’ in comparison to those of friends and family, there was no sense of being able to cut energy use in their current circumstances, as caring commitments took priority.

Although the household energy use had increased, Christine reflected that it was considerably less than when all six children were at home and the washing machine was on ‘up to ten times a day’. Each child had also had a television and games console, which her youngest son, who still lived at home, repeatedly left on. Christine described the way in which both she and her husband encouraged their children to think about their energy use and reduce consumption where possible; for example, being told to turn lights and appliances off when not in use. However, she did not feel that her children were vigilant about this until they moved out to their own homes and had responsibility for paying energy bills. Thus, whilst current household energy use was much higher than it had been in recent times, it was not as extensive as it had been when accommodating eight people full-time.

By interview two Christine's father-in-law had passed away. Due to the considerable life changes they had recently experienced, they had taken the decision to remove their house from the market and were instead engaged in extensive redecoration. Christine also reflected on how other aspects of their lives related to energy and environmental issues had changed following their caring responsibilities and bereavement. For example, her husband had been committed to his allotment, which produced some fruit and vegetables for the family, but had been unable to maintain this in light of other time commitments.

An additional implication for the family was that they had installed Sky television to enable Christine's father-in-law to watch the programmes he enjoyed whilst he was living there, but had been told by the installer that they must leave the Sky box on standby.

[w]e only had Sky recently so before we had Sky we had a remote control to turn off all the electricity altogether at the end of the day and now we've got to keep it on standby because of the Sky ... that's a bit of a bug bear because every day there's a power point here right this has got everything in there and it's plugged into the back and we can't turn any of it off.

Although the addition of Sky TV appears to be a relatively minor change, this affected the family's routine of turning all appliances off at one switch, meaning other appliances – such as televisions and DVD players – began to be left on, which Christine felt would lead to increased energy bills. Christine describes her annoyance at this situation, but also feels relatively powerless to affect change as she describes how they ‘can't get out of the contract’.

Between the second and third interview Christine experienced a number of life changes, most significant in terms of energy use was her return to work. Christine commented that the transition back to work had brought about an alteration in the family's daily routine, which subsequently meant they had been able to reduce their energy use during the day and this had a significant impact on their bills:

Yeah because I'm not here all day obviously there's no heating, we don't, there's no need to put the heating on in the day so I think that that's probably had an effect. We've closed two parts of the house off to the heating anyway ... my husband definitely had a smile on his face because he reads the meters every week.

Instead of heating their house constantly, Christine spoke about the way they could now layer up with additional clothing, and how there were no longer energy requirements for parts of their house. Christine felt that the uncertainty that many of the transitions that she had recently experienced gave rise to meant she was unable to imagine what her future held. This uncertainty and inability to think about the future was a theme that ran through Christine's account over the three interviews.

I tend to think that my life is always the same every year, year in year out but when you sort of document it there are slightly different things, you know you don't always really have a death of a family member or you know or a birth or whatever in the same year ... I really don't know what the future is going to bring so therefore I can't sort of anticipate what my actions are going to be.

Christine's case illustrates how significant unplanned transitions can be for everyday life and energy use. At one point describing her life as 'moving from one trauma to the next', the cumulative effect of these unexpected changes left Christine with a sense of uncertainty as she repeatedly stated that she struggled to think about what the future might hold (Shirani and Henwood 2011; Worth, 2009).

The relevance of linked lives is evident in Christine's account, where catering for the needs of other family members is central to her narrative. Whilst the circumstances are of course very different, there are some similarities between Christine's transition to become a carer for a dependent other, and the transition new parents face in caring for their child. Previous research has suggested that pro-environmental behaviours (such as reducing domestic heating) can fall by the wayside after the birth of a child due to expectations that conditions should be comfortable and temperate, which is seen as non-negotiable in avoiding ill-health (Thompson et al., 2011; Butler et al., 2016). In a similar way, Christine's family saw it as necessary to increase their household heating when they had caring responsibilities. This highlights the importance of taking into account the higher energy needs of those with a disability or long-term illness and how these individuals (and their carers) can best be supported (George et al., 2013), which runs counter to the assumption that reducing energy use is always beneficial. In such circumstances, longer-term concerns about environmental impact are understandably seen as giving way to perceived non-negotiable requirements of caring. This highlights the need to consider the relevance of caring responsibilities beyond parenting for everyday energy use.

Whilst Christine's redundancy had meant that she was available to care for her father-in-law, it also meant that the family had increasing domestic energy bills at a time when income was reduced. This situation was a cause for concern, echoed by other participants in our sample who experienced unemployment. Therefore, whilst Thompson et al. (2011) make an important point that losing one's job is a stressful time and people may not be receptive to messages about green behaviour, given these financial concerns, it may also be the case that advice on how to reduce energy and save money may be particularly welcome at this point. Although, in cases such as Christine's where increased energy use is seen as unavoidable, such advice would need to avoid being seen as pressurising.

Christine's account also exemplifies the way some participants focused on their domestic energy consumption; for example, her first quote indicates that workplace energy use is not necessarily considered. There are several reasons why participants may not mention energy use at work; for example, not having control over how energy is used or responsibility for paying the bills (Parkhill et al., 2015), yet workplaces are clearly sites where energy is used on an everyday basis and are therefore important to consider.

3.3. Sarah

When Sarah was first interviewed for the project she was living in rented accommodation in North London with her teenage daughter. Sarah had recently started work as an A&E nurse at the Royal Free Hospital, which involved weekend and evening shift work. Sarah talked extensively about her journey to work.

I cycle there and back, unless it's raining really, really badly and then I'll be really lazy and drive my car down to where my parking zone runs out ... when my daughter was young I had a seat on the back for her and cycled as much as I could. And then I learnt to drive

and sort of didn't cycle as much. It's [cycling] just quicker to get to work, it's so much quicker. I can be at work in twenty minutes, whereas to get a bus or public transport you need to leave an hour to get there. So it was convenience as well and obviously I wanted to try and get fit and yes, it just seemed like, they've introduced an underground sort of cage where you use your pass to get in. So it's quite a secure bike lock up ... when I worked at [another hospital] I cycled, which is only about a five/ten minute cycle from here, and I came out from a late shift and my bike was gone. So it was really important that they had somewhere secure, before I started cycling I wanted to make sure.

As this extract indicates, a number of different things impact upon Sarah's decisions about how to get to work: her ability to drive; the weather; convenience; and security. Parking facilities at the hospital were also restricted, which Sarah suggested was another factor that encouraged her to cycle, as it would have been too expensive and difficult to drive and try and find another place to park. This demonstrates the importance of workplace infrastructure for employees' energy use and sustainable transport choices.

Woven through Sarah's account are reflections on childhood memories; of cycling being something her mum always did, and being necessary for transport. This is also something Sarah tried to carry on with her daughter, highlighting the relevance of linked lives to her narrative. Her daughter has had an influence on Sarah's travel practices; as she is now confident enough to travel to school alone, Sarah no longer has to take her and can therefore travel directly to work.

At home, Sarah described being conscious of saving energy, primarily to save money, through using the heating as little as possible, saying she and her daughter often watched TV under a blanket instead. One of the challenges for Sarah in living in rented accommodation was that she felt that she had little power to make changes to her home in order to improve energy efficiency or introduce sustainable technologies (see also Stanes et al., 2015). However, she did indicate her concerns about being 'mean' because her daughter had a cold home, contrasting this with her mum's 'cosy' home.³ As with Christine and Phoebe, here heating is associated with care for family members, although Sarah differs in feeling unable to provide this warmth because of financial concerns.

I love going to my mum's because it's always so cosy, whereas my flat's always so cold. In a way I feel bad that my daughter will have grown up in a cold flat rather than a cosy flat, but then, you know, she needs to know that we can't just waste energy just to keep warm when we could put another jumper on and stuff you know. I feel really mean.

By the second interview Sarah was working at another hospital in a different nursing role with a shift pattern more conducive to family life. The new job resulted in a different journey to work, which at the time of the interview she was making via bus. Sarah said that she would consider cycling again once she had found suitable arrangements for storing her bike securely, and continued to emphasise the positive aspects of cycling, but expressed some concerns about the new route along busy roads. Sarah's travel routines were also significantly influenced by her car being stolen, which had a further impact on out of work activities, such as her daughter's dance classes. In addition, the lack of a car influenced Sarah's shopping routines; rather than driving to a supermarket for a 'big shop', Sarah had her shopping delivered and spoke about choosing the most efficient option for this.

I was thinking tonight I'll probably shop online, just have to pay for delivery but do the green one where they've got a big van and they're doing deliveries in your area, so I think Asda go on about like low emission delivery so yeah I'll probably just do that and carry on

³ See Hitchings et al. (2015) for further discussion of a cosy home.

getting the bus to work, hopefully start to cycle and I don't know, I don't know what to do about a car.

Here Sarah describes making a conscious environmental choice in opting for a low emission delivery, which would have been unlikely to have occurred without the unexpected disruption caused by her car being stolen.

By interview three, Sarah had been working in her new job for several months and had been able to purchase a new car. Despite previous comments that she was intending to cycle, this had not transpired and she continued to highlight concerns about it:

I haven't got round to cycling into work yet ... I've sorted out a secure lock-up for it but I sorted that out a couple of weeks and then obviously the weather was just too rubbish to cycle so now I'm going to get the bike serviced and start cycling to work... but it's central London, it's really busy and I'm quite scared about it because we don't have decent cycle lanes at all. So just have to be really careful ... apparently just about two or three weeks ago a lady who works at the hospital where I work got crushed by a lorry on her bike, so I'm like 'ok!' I'm just starting to cycle. But just have to be extra careful.

Whilst the Royal Free Hospital had made efforts to encourage cycling to work, several participants in our London case site discussed their concerns that cycling in London was too dangerous. Like Sarah, others also gave examples of people they knew who had been injured or killed in cycling accidents as a reason for not cycling. Therefore, whilst workplaces may make efforts to encourage more sustainable transport options, there are likely to be other relevant factors at play, particularly relating to wider infrastructure and safe cycle routes, which influence people's decisions.

Despite purchasing another car, Sarah had not automatically re-verted to her previous routines and some of the changes she had made when she was without one continued.

Well obviously my car was nicked so we were walking quite a lot and you know getting around, getting used to not having a car as back-up, just things like going shopping and getting shopping delivered but only using when they're doing like a van delivery so they're doing drops in your area ... and then I don't spend as much if I'm not in the actual shop physically so I don't pick this 'oh I'll try this', so yeah saving money, saving energy.

Here she indicates that she has benefited from the unexpected change, saving both energy and money. This change in routine was prompted by the absence of the car and does not seem to have been altered with the purchase of a new vehicle:

I rarely actually use the car now... So yeah you just get used to not having it and then make changes and they sort of stayed so.

Sarah's account illustrates the impact of both planned and unanticipated changes on her energy use, and how, like Christine, her behaviour is influenced by the priority of caring responsibilities. In particular, Sarah's case illustrates the impact of factors beyond her control; for example, the availability of a secure place to keep her bike is central to her decision to cycle, and being unsure about this at her new place of work contributes to her postponement of cycling in favour of taking the bus.

The theft of Sarah's car was clearly an unplanned and distressing event that caused inconvenience for the family. However, the forced change of routine provided an opportunity for Sarah to consider other options for meeting her family's needs, and how she might do this more sustainably. As she indicates in the third interview, she maintained some of these changes even when she purchased a new car, because she considered them to be more environmentally friendly, cheaper, and more convenient. Her account also illustrates some of the unanticipated longer-term effects of unexpected transitions on energy use and sustainable practices, an issue which has previously received little

consideration.

4. Concluding Discussion

These case studies highlight some of the unfolding implications of both planned and unexpected life changes for three women from varied circumstances at different times in their lifecourse. We have sought to highlight how the concept of 'linked lives' is relevant for all three participants. Both Christine and Sarah found their energy use was significantly influenced by caring responsibilities for other family members, evidenced in drawing attention to the perceived importance of a warm house in terms of providing care. These relationships can be seen to have an impact on energy use and environmental actions in direct (e.g. Christine using the heating considerably more when she became a carer for her father-in-law) and more indirect ways (e.g. Sarah moving jobs after finding shift work difficult to reconcile with family life, and subsequently changing her travel practices). Although she did not have direct caring responsibilities, linked lives were also central to Phoebe's account. Her experience points to the relevance of a supportive and interested social network in facilitating efforts at energy reduction, alongside the infrastructure to support this. For Christine and Sarah, their children and parents are mentioned frequently in decisions about everyday energy use and travel choices, but beyond this, more distant others – such as Sarah's colleague or Christine's Sky installer – appear to have an impact on their everyday energy and environmental choices. Therefore, whilst care is a relevant concept, linked others outside of a caring relationship are also influential. These insights highlight the importance of the linked lives concept in recognising the significance of other people in decisions about everyday energy use. This indicates that future research on life transitions and energy use should be mindful of these connections in taking account of complex household interactions (Collins, 2015). But beyond this, the ways in which more tangential others may also have an impact on everyday energy and environmental practices need to be considered. Taking this into account may provide a more comprehensive picture of decisions taken in relation to everyday energy use and environmental action. If energy use can increase due to linked relationships, it is also possible that linked others can play a role in reducing energy (Parkhill et al., 2015).

These cases were not selected on the basis of age or gender but for the insights they could provide into the implications of planned and unexpected life transitions. We have not foregrounded age in this paper, although others have pointed to the relevance of 'generational geographies' (Stanes et al., 2015). Age and being at different points in their lifecourse means that these participants are differently situated in relation to the theme of warmth and care that was raised in all three accounts. Also, while caring remains gendered, with women spending two to ten times more time on unpaid care work than men (Ferrant et al., 2014), the significance of other people should not simply be understood in terms of gendered or maternal ideas about care and concern for others (Burningham et al., 2014:23). Previous research has highlighted the emotional significance of providing a comfortable environment for family life – with participants seeing heating as central to this (Butler et al., 2016). It may be that discourses of intensive mothering (Hays, 1996) serve to make these ideals particularly pressuring for women but it would be inaccurate to suggest that the concept of linked lives is not also relevant to men's accounts, as data from our wider sample attests.

By focusing on three individual case studies, this paper has shown the significance of life transitions for energy use, as well as engaging with debates about opportune moments for intervention, although we do not seek to make recommendations in this vein. Such insights are made possible through the QL research design, which facilitates a detailed exploration of life changes and how their impacts unfold over time. The paper has also highlighted how the 'long-view' offered by QL research provides the possibility of developing more complex and realistic understandings of how and why individuals and communities

live as they do (Thomson, 2007), as well as the (un)intended consequences of interventions and policies themselves. Subsequently, we argue that QL approaches form an important part of the methodological toolkit for future energy research.

The challenge of seeing life transitions as opportune moments for targeted behaviour changes is an issue we have previously considered in detail (Groves et al., 2016). Here we have sought to expand the discussion through a consideration of both planned and unanticipated life transitions to demonstrate how both can have significant impacts on people's everyday lives. Unexpected events, in particular, can be seen to have an effect on people's ability to think about the future (see also Shirani and Henwood, 2011) and precisely because of their unpredictability, raise greater challenges in terms of identifying moments for potential interventions. They may also be difficult times in people's lives when they are not receptive to messages or other processes designed to encourage change. However, challenging moments could be opportune times for interventions if energy saving can support other goals (such as making financial savings). We have also sought to highlight how things which appear relatively mundane (such as the installation of Sky TV) can lead to longer-term changes that impact on energy use (such as leaving appliances on).

In line with previous work (Burningham et al., 2014), our research also problematises the notion of critical moments or moments of change. Whilst these three participants experienced significant events over the course of the study, we have illustrated the importance of considering incremental changes, where small changes that may not seem significant together form the bigger picture of shifting energy use. Subsequently, we suggest that future research needs to take account of these apparently more mundane and unplanned changes alongside anticipated and more significant life transitions.

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