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The Triarchic Model of Psychopathy and Antisocial Behavior: Results from an Offender Population
with Personality Disorder.

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Abstract

Objective. The triarchic model posits that psychopathy is a combination of phenotypes related to boldness, meanness and disinhibition. We examined how each of these phenotypes of psychopathy related to past violence and antisocial behavior and to behavior within the prison **Method.** The sample consisted of men ($N = 108$) with a history of serious offending and a diagnosis of personality disorder at the point of admission to a prison serving as a therapeutic community. We took four indices of violence and antisocial behavior: 1) self-report of lifetime proactive and reaction aggression; 2) criminal convictions prior to admission to the prison; 3) exclusion from the prison within 12 months due to rule breaking; and 4) behavior within the first 12 months of admission to the unit. **Results.** The constructs of the triarchic model, as assessed by the Triarchic Psychopathy Measure (TriPM), were strong predictors of self-reported aggression, with disinhibition being related to both proactive and reactive aggression, while boldness was related to proactive aggression alone. Past criminal convictions were also associated with disinhibition, except for convictions for violent behavior. Both meanness and disinhibition were predictive of exclusion from the prison within 12 months for rule-breaking behavior and of aggressive behavior within the prison. **Conclusions.** The triarchic model of psychopathy is associated with past antisocial behavior and is predictive of antisocial behaviors within the prison, and its different constructs of the triarchic model are associated with different manifestations of antisocial behavior. The TriPM holds great promise for improved assessment and enhanced understanding of psychopathic personality within institutions and can facilitate offender management via improved phenotypic analysis of boldness, meanness, and disinhibition.

Keywords: Psychopathy, Triarchic model, reactive aggression, proactive aggression, convictions, personality disorder.

The Triarchic Model of Psychopathy and Antisocial Behavior: Results from an Offender Population
with Personality Disorder.

Individuals who are regarded as psychopathic are notable by their indifference to others (Hare, 2003). They appear to be able to exploit other people and to inflict harm on them, often with little sign of remorse. Psychopathic individuals commit far more than their fair share of antisocial acts (Neumann, Hare, & Pardini, 2015), and this is particularly marked for violent crime (Serin, 1991; Williamson, Hare, & Wong, 1987), and for those offenses that are regarded as acts of predatory violence (Cima & Raine, 2009; Nouvion, Cherek, Lane, Tcherernissine, & Lieving, 2007; Swogger, Walsh, Houston, Cashman-Brown, & Conner, 2010; Woodworth & Porter, 2002). The measurement, understanding, and management of psychopathy are of concern to professionals in forensic and clinical settings who need to consider issues related to personal safety, future crimes, and the management of offenders both within institutions and upon release to the community (Hobson, Shine & Roberts, 2000). Further, the concept of psychopathy is proving useful in other domains such as in business and politics (Mathieu, Neumann, Babiak, & Hare, 2015). It has been found that psychopathy is far more prevalent in “upper-level managers” (around 4%) compared to the general population (around 1%), and is associated with poor management styles (Babiak, Neumann, & Hare 2010). Some aspects of psychopathy, those of boldness and interpersonal dominance, have been found to be prevalent in very successful political leaders, such as U.S. presidents (Lilienfeld et al., 2012). Other features of psychopathy, such as grandiosity and narcissism, are correlated with public persuasiveness, crisis management, and agenda setting. However, these traits are also associated with more negative aspects of behaviors such as unethical behaviors and congressional impeachment (Watts et al., 2013). In this paper, we attempt to see how different aspects of psychopathy are associated with different manifestations of violent and antisocial acts in a sample of serious offenders with a diagnosis of a personality disorder.

There have been many definitions and conceptions of the nature of psychopathy (Cleckley, 1941; Hare, 2003; McCord & McCord, 1964). Patrick and colleagues put forward the triarchic model

proposing that psychopathy consists of three distinct, but intersecting, phenotypic tendencies that they term boldness, meanness, and disinhibition (Patrick, Fowles, & Krueger, 2009).

The construct of boldness incorporates such concepts as dominance, self-assurance, social efficacy (an individual's confidence in their ability to engage in successful social interactions), and even emotional resilience (the ability to adapt to stressful situations and to cope with life's ups and downs; see Patrick & Drislane, 2015). It has been suggested that the concept of boldness is not well represented in some other conceptualizations of psychopathy, and in particular in the Psychopathy Checklist-Revised (PCL-R; Hare, 2003), which is widely used in both clinical and research settings¹ (Patrick et al., 2009). However, boldness, as measured by the Triarchic Psychopathy Measure (TriPM; Patrick, 2010), was significantly correlated with both the interpersonal and antisocial facets of the PCL-R (Venables, Hall, & Patrick, 2014). TriPM Boldness was also strongly correlated with the Fearless Dominance dimension of the Psychopathic Personality Inventory (PPI-R: a self-report measure of psychopathy; Lilienfeld & Widows, 2005) in a sample of female offenders and in mixed gender undergraduate students (Sellbom & Phillips, 2013).

The construct of meanness encapsulates what most lay-people might imagine psychopathic traits to be and includes callous attitudes, a lack of empathy and remorse, and a hostile and exploitative manner (Patrick & Drislane, 2015). Meanness, as measured by the TriPM, had significant correlations to all facets of the PCL-R (Venables et al., 2014) and also to the PPI-R Self-Centred Impulsivity and Coldheartedness scales (Sellbom & Phillips, 2013; Stanley, Wygant, & Sellbom, 2013).

Finally, the construct of disinhibition encompasses deficiencies in behavioral controls, impulsivity, poor planning, a difficulty in controlling urges, and deficits in delaying gratification

¹ The PCL-R originally was thought to contain two factors, Factor 1 (Interpersonal/affective traits) and Factor 2 (Social Deviance), but has been updated in the later manual to a four facet model that contains Facet 1 (Interpersonal), Facet 2 (Affective), Facet 3 (Lifestyle) and Facet 4 (Antisocial); see Hare (2003).

(Patrick & Drislane, 2015). As measured by the TriPM, disinhibition showed strong associations with the social deviance traits of the PCL-R (Venables et al., 2014) as well as to the PPI-R Self-Centred Impulsivity factor (Sellbom & Phillips, 2013).

As noted above, there is a consensus that psychopathy is associated with violent behaviors. Therefore, our first hypothesis was that psychopathy, as defined by the TriPM total score, would be associated with all forms of self-reported aggression (Hypothesis 1). However, previous studies have shown that the different components of psychopathy have different relationships to violence. Several studies have suggested traits of social deviance are more predictive of violence than the interpersonal/affective traits (e.g., Gray et al., 2003; Kennealy, Skeem, Walters, & Camp, 2010; Salekin, Rogers, & Sewell, 1996). However, this result may depend upon the type of violence being measured. Violent actions are often classified into instrumental vs. reactive (Feshbach, 1964). Instrumental violence, also termed predatory or cold-blooded, is defined as being premeditated, and with a purpose to achieve a goal that is not necessarily to cause harm to the recipient. It is often done with little emotion. On the other hand, reactive aggression, also termed hostile or hot-blooded, is done after some sort of provocation, without premeditation, and involves high emotional arousal. Its purpose is to hurt the recipient. Several studies found that instrumental violence was predicted better by interpersonal/affective traits of psychopathy rather than the social deviance traits (Laurell, Belfrage & Hellström, 2010; Vitacco et al., 2009; Woodworth & Porter, 2002).

The association between violence and psychopathy has also been studied using other measurement models of psychopathy. For instance, Edens, Poythress, Liliensfeld, Patrick, and Test (2008) examined institutional misconduct in a sample of male prison inmates in relation to the PPI and found that the Self-Centred Impulsivity dimension was strongly related to all forms of misconduct, including aggressive misconduct, whereas the dimension of Fearless Dominance was unrelated to all forms of misconduct. This pattern of aggression, being related to Self-Centred Impulsivity but not Fearless Dominance, has been supported in several studies (Falkenbach, Poythress, Falki, & Manchak, 2007; Patrick, Edens, Poythress, Liliensfeld, & Benning, 2006). However, these studies did not separate

aggression into instrumental or reactive. Cima and Raine (2009) examined self-reported aggression in a sample of male inmates and found a strong relationship between both instrumental and reactive forms of aggression for Self-Centred Impulsivity. The Fearless Dominance dimension was not related to reactive aggression but did have a significant relationship to proactive aggression, although this was much smaller than with Self-Centred Impulsivity. Smith, Edens, and McDermott (2013) report somewhat similar results for in-patients in a forensic psychiatric hospital, but also found that the interaction of both high Fearless Dominance and high Self-Centred Impulsivity scores were particularly associated with instrumental aggression occurring within the hospital.

The pattern of results suggests that different aspects of psychopathy may be related to different forms of violence and/or antisocial behaviors. In short, traits of social deviance appear particularly well associated with reactive aggression, whereas the interpersonal/affective traits are more associated with instrumental aggression. The triarchic model offers a different conceptualization of psychopathy based upon the three phenotypes of boldness, meanness, and disinhibition. It is of interest to see how these three phenotypes are related to different forms of violence and antisocial behaviors. Given the reported close relationship between violence/antisocial behavior and psychopathy, and the use of psychopathy to guide decision-making with respect to individuals in correctional settings, this is a crucial area of study. We therefore hypothesised that Boldness would be associated with proactive aggression, but not reactive aggression (Hypothesis 2). We further predicted that Disinhibition would be predictive of all forms of aggression (Hypothesis 3). We made no specific prediction with respect to Meanness.

Psychopathy is associated with many forms of antisocial and/or criminal behaviors outside of violence (Hare, 2003). We, therefore, hypothesised that total TriPM score would be associated with a higher number of convictions (Hypothesis 4). Most studies of convictions, or of recidivism, show the social deviance traits of psychopathy being most associated with criminal acts (e.g., Gray et al. 2004) and hence we also predicted that Disinhibition would be associated with higher number of previous criminal conviction (Hypothesis 5). However, we refrained from making specific predictions with regard to the other two scales of the TriPM.

Psychopathy is also associated with behavior within institutions (Edens et al, 2008). For example, Hobson et al. (2000) found that psychopathy was associated with a range of problem behaviors while in a secure unit that included disruptive behavior on the wing and disruptive behavior in group therapies. Further, these behaviors appeared more pronounced for people with high interpersonal/affective traits of psychopathy than for those with social deviant traits. However, Gray et al. (2003) found that aggressive acts (such as physical aggression to others or to property) were more associated with the social deviance traits of psychopathy. Hence, we hypothesised that total psychopathy score would be associated with institutional misconduct (and, therefore, early exclusion from the institution due to rule-breaking) and with self-reported acts of antisociality within the first 12 months of their admission to HMP Grendon (Hypothesis 6). We also predicted that TriPM total score would also be associated with antisocial behaviors within the prison within 12 months (Hypothesis 7). We did not make specific hypotheses relating to the three triarchic constructs given the complex pattern of results from previous studies.

In order to measure levels of boldness, meanness, and disinhibition, our participants completed the TriPM questionnaire. In order to measure a person's level of violence and antisocial behavior we examined a range of indices. First, we took a self-report measure of their past aggression and violent behavior. We chose to use the Reactive-Proactive Questionnaire (RPQ; Raine et al., 2006) as this provides a measure of both reactive and proactive rates of violence which may have differential correlates to the different aspects of psychopathy (Cima & Raine, 2009; Cornell et al., 1996; Walsh, Swogger, & Kosson, 2009; although also see Blais, Solodukhin, & Forth, 2014). Second, we examined official records of past criminal behavior and took what we regarded to be "key" indices of violence and criminal activity: number of convictions, number of violent convictions, and number of juvenile convictions. Third, we examined if offenders were able to follow the rules of the prison/therapeutic community in which they were placed and indexed this by whether they were subjects to early exclusion from the prison/therapeutic community within 12 months of assessment (which was at the time of admission to the prison). Finally, we examined behavior while in the secure unit via self-report of

behavior. Hence, we could examine the triarchic model in relation to both retrospective and prospective indices of aggression and antisocial behavior and via both objective behavior and self-report.

Method

The research was conducted at HMP Grendon. Admission to the unit requires the person to have a diagnosis of a personality disorder (which for the majority is antisocial personality disorder) made by a clinician and to have committed a serious offense (as defined by HM Prison Service). We did not have access to individual diagnoses for these offenders.

All experimental protocols and data collection methods were given ethical permission by both Grendon Research and Advisory Committee and the NISCHR Wales Research Ethics Committee. All participants gave written informed consent to participate in the experimental procedures, the clinical interviews, and for the researchers to have full access to their prison records.

Participants

All participants were adult male offenders who had been admitted to the assessment unit at HMP Grendon. All consecutive admissions were approached between November 2012 and November 2014 and there were no specific exclusion criteria. We approached 111 participants and 110 agreed to participate. One participant then declined to continue after data collection had begun and one later withdrew. This left a sample of 108 participants with usable data sets. However, not all participants completed all parts of the study. Details of the numbers completing each part of the study are given in the Results section. The average age of participants was 40.0 years ($SD=11.11$) with a range from 23 to 64 years. The majority of participants described themselves as white (79.6%), followed by black or mixed race (15.7%), Asian (3.7%) and finally, 'other' (0.9%).

The average number of convictions for participants was 16.46 ($SD=15.79$). Using the index offense only, 38.9% were convicted of murder, 10.2% of attempted murder, 12.0% of rape, 6.5% of wounding, 8.3% of grievous bodily harm, 12.0% of robbery, and 12.0% of other offenses.

All offenders were screened for low verbal IQ using the Wechsler Test of Adult Reading (WTAR; Wechsler, 2001). All participants fell above the cut off of 70 and were consequently included in the analyses. Average IQ was 98.00 (SD = 12.05, range 70 – 119).

Stimuli and Materials

Triarchic Psychopathy Measure (TriPM). The TriPM is a 58-item questionnaire that provides scores for each of the three components of psychopathy; boldness (e.g. “I’m a born leader”), meanness (e.g. “I don’t have much sympathy for people”) and disinhibition (e.g. “I jump into things without thinking”). Items are answered via a 4-point scale: *true*, *somewhat true*, *somewhat false*, and *false*. The instrument has well-established reports of internal consistency in both community and forensic samples (e.g., Wall, Wygant, & Sellbom, 2015). In the present sample the reliability was good (boldness: $\alpha = 0.81$, 95% CI [.73, .87], meanness: $\alpha = 0.92$, 95% CI [.89, .95], disinhibition: $\alpha = 0.85$, 95% CI [.79, .90])

Proactive and Reactive Aggression Questionnaire (RPQ). The RPQ is a 23-item self-report questionnaire where the participant rates how often an aggressive behavior has occurred in the past on a 3-point scale (“never”, “sometimes”, “often”). It provides two separate measures relating to amounts of Proactive Aggression (when the person has been aggressive in a deliberate and planned manner; e.g., “had fights with others to show who was on top”), and Reactive Aggression (when the person has been aggressive in reaction to a particular circumstance or in an unplanned manner; e.g., “reacted angrily when provoked by others”). The measure has proven validity and reliability (Fossati et al., 2009). In the present sample the reliability was good (proactive: $\alpha = 0.81$, 95% CI [.72, .87], reactive: $\alpha = 0.84$, 95% CI [.77, .89]).

Previous convictions. Data about previous convictions were collected from the Offender Group Reconviction Scale and from the Offender Assessment System. Only convictions were recorded. This had already been completed by the UK Probation Service as part of the sentencing and management procedures.

Prison Behavior. Offenders who were still at the prison 12 months after the initial assessment were interviewed about their behavior over this period. As part of this evaluation they completed a questionnaire which we termed the “Recent Aggression Questionnaire” (See Appendix 1) which had nine questions relating to aggressive behavior towards others and towards the self over the past 12 months that were scored on a 4-point scale of “never (0)”, “once (1)”, “a few times (2-3)”, or “several times (4 or more)”. For the purposes of analysis questions 1 and 2 were combined to form a “verbal/threats” variable, questions 3 and 4 to form a “violence to property” variable and questions 5-7 to form a “violence to others” variable. Violence to the self was not included in the present analysis.

Results

Descriptive statistics and correlations between the scales are shown in Table 1. Within the TriPM, the Boldness measure was not significantly correlated with the Disinhibition scale and was only moderately correlated with the Meanness scale. However, there was a strong relationship between the Meanness and Disinhibition scales. This is in line with previous reports (e.g., Stanley et al., 2013).

Past violence

Self-reported violence. Table 2 illustrates the zero-order correlations and the regression coefficients between the TriPM and the Reactive and Proactive scales of the RPQ. At the level of zero-order correlations, the TriPM Total score was correlated to both proactive and reactive aggression with large effects sizes.

The similarity in the relationship of the TriPM to both reactive and proactive violence is not surprising given the high correlation between the two indices of violence in this sample ($r = .83, p < .001$). Therefore, we also examined if the TriPM was able to predict unique variance associated with each of these forms of violence. A residualized measure of proactive aggression was created by regressing reactive aggression scores onto the proactive aggression scores, and a residualized measure of reactive aggression was created by regressing proactive aggression scores onto the reactive aggression scores. TriPM score was significantly correlated with residualized proactive aggression score ($r = .38, p < .001$), but not with the residualized reactive aggression score ($r = -.04, p = .74$).

Standard multiple regression analyses of the three subscales of the TriPM onto the Proactive and Reactive scales individually produced a slightly different pattern of results. Boldness was still related to the Proactive scale and not the Reactive scale, and Disinhibition to both RPQ scales. However, the Meanness scale was no longer predictive of either form of aggression, suggesting that its relation to violence only exists within its shared variance with the Disinhibition scale².

To summarize, the TriPM total score was strongly associated with all forms of self-reported aggression (Hypothesis 1). The Boldness scale was associated with proactive but not reactive aggression (Hypothesis 2), and the Disinhibition scale was predictive of both forms of aggression (Hypothesis 3).

Previous Convictions. The data for all forms of convictions were highly negatively skewed and so for statistical analysis we applied a square root transform, $X_{\text{trans}} = \sqrt{1+X}$, which produced a distribution that approximated a normal distribution for the total convictions and violent convictions (skewness = 0.62, $SE = .23$ and 0.84, $SE = .23$). However, for the juvenile convictions no transformations were satisfactory so non-parametric statistics were used. Table 3 illustrates the zero-order correlations and the regression coefficients between the TriPM and the number of previous convictions.

At the level of zero-order correlations, the total TriPM score was significantly correlated to all types of criminal convictions, although the relationship with violent convictions was only small.

At the subscale level, we found no associations between convictions and the Boldness scale. The Meanness scale was associated with violent convictions and juvenile convictions with a small effect size. The Disinhibition scale was associated with all forms of convictions, again with a small effect size.

The three subscales of the TriPM were regressed onto each of the conviction scores. Boldness once again showed no associations to the conviction variables. The Meanness scale was now no longer significantly associated with violent or juvenile convictions. However, it now became negatively

² Further regression analyses support this interpretation as the Meanness scale was not significantly predictive of either form of violence if Disinhibition was entered at the same time, but it retained significant prediction if only Boldness was entered at the same time.

associated with total convictions. The Disinhibition scale was strongly related to total convictions and juvenile convictions and its beta weight increased from the zero-order correlation for the total conviction score.

To summarize, The TriPM total score was associated with all forms of previous convictions with small or medium effect sizes (Hypothesis 4). The Disinhibition subscale was the psychopathy dimension most associated with past convictions (Hypothesis 5).

Prison Behavior

Exclusion from HMP Grendon. HMP Grendon is run as a therapeutic community. Any infringement of its rules (e.g., possession of drugs) leads to removal from the prison. Given the relatively short follow-up time (12 months) we used, it is extremely unlikely that any participants (who were all assessed at admission) would have completed treatment and have moved to lower security. Hence, continued presence in HMP Grendon is indicative of relatively good behavior, while exclusion from the prison indicates rule-breaking, and can be used as a valuable dependent variable. We found that those offenders that had been excluded from the prison ($n = 47$) had greater TriPM scores than those remaining in the prison (84.38 vs 70.08, $p = .003$, $g = -0.58$). On the subscales of the TriPM, the two groups did not differ on the Boldness scale (25.96 vs 26.36, $p = .37$, $g = -0.17$), but the excluded group had greater Meanness scores (21.48 vs 14.89, $p = .003$, $g = 0.57$) and greater Disinhibition scores (36.94 vs 27.84, $p < .001$, $g = 0.80$).

To summarize, the TriPM total score predicted exclusion from the prison within 12 months of admission with a medium effect size (Hypotheses 6). Both the Meanness (medium effect size) and Disinhibition scale (large effect size) predicted exclusion from the prison.

Behavior over the previous 12 months. Data on prison behavior was only available on 61 offenders from the initial sample due to the exclusion from the prison of some inmates ($n = 47$) as described above. The data for all forms of prison behaviors were highly negatively skewed and no form of transformation could correct this to an approximate normal distribution. We, therefore, adopted a different data analysis plan. We now used the behavioral data to define groups (e.g., violent to others vs

not violent to others) based on whether a person reported this behavior or not, and then compared the TriPM scores between these groups.

Data from the follow-up sample is presented in Table 4. For the “violence to others” variable, those that reported such violence had larger scores on the total TriPM (large effect size), and each of the subscales also produced large effect sizes, although due to the small number of men ($n = 4$) reporting this violence, only the Disinhibition scale was statistically significant. For the “threats of violence” variable, those that reported such violence had larger scores on the total TriPM (large effect size). Only the Disinhibition scale was statistically significant between the two groups. Finally, for the “violence to property” variable, the TriPM score was higher in those that reported this form of violence (large effect size). The group that reported violence to property also had significantly larger Meanness and Disinhibition scores.

To summarize, the TriPM total score predicted antisocial behaviors within the prison within the next 12 months with a large effect size (Hypotheses 7). Both the Meanness (medium to large effect size) and Disinhibition scale (large effect sizes) predicted these behaviors.

Discussion

Our main finding is that the TriPM is strongly associated with past violence and antisocial behavior outside the prison, and is also a predictor of future antisocial and violent behavior within the prison. Other measures of psychopathy have a proven history of association with violent behavior and antisocial acts (Serin, 1991). Hence, it is no surprise to find that the TriPM is also associated with antisocial and/or violent acts in our sample of offenders. Nevertheless, the clear association with violent and antisocial acts across the four measurement domains provides strong external validity for the TriPM in this sample that is characterised by high levels of serious antisocial behavior. However, our major aim was to examine if the different subcomponents of psychopathy were related to different forms of violence and antisocial acts.

Boldness

Boldness reflects social dominance, emotional resilience, and venturesomeness. Such individuals appear not to be impulsive or easily led by their emotions (Weidacker, O'Farrell, Gray,

Johnston, & Snowden, 2017). In comparison to the Disinhibition and Meanness scales, the Boldness scale showed fewer relationships to violence. However, it is notable that it is related to proactive violence, but not reactive violence, on the RPQ. This result has parallels to the finding that the Fearless Dominance component of the PPI-R was also able to explain the unique variance related to proactive, but not reactive, violence (Cima & Raine, 2009; Smith et al., 2013).

Proactive, or instrumental, aggression/violence has been seen to be almost unique to psychopathic individuals (Cima & Raine, 2009; Woodworth & Porter, 2002) and represents the use of violence in a cold-blooded manner to achieve one's goals. Hence, it appears that boldness is a factor that distinguishes psychopathy, and the behavior of psychopathic offenders, from that of other antisocial individuals (Venables et al., 2014). However, we note that proactive aggression is also elevated in those with a high disinhibition score and it may be the combination of boldness and disinhibition that is particularly potent in the aetiology of proactive aggression (Smith et al., 2013).

Meanness

The construct of meanness represents traits of reduced empathy, callousness and cruelty. One might, therefore, expect to see this reflected in most measurements of violence, particularly violence that was premeditated in nature. While we find plenty of evidence for relationships between TriPM Meanness and our measures of violence and antisociality, somewhat surprisingly we did not find that it was related to proactive violence.

The Meanness and Disinhibition scales are strongly correlated in this sample ($r = .66$), which is similar to findings in previous reports of offender samples (Wall et al., 2015). When both are entered into a regression equation to predict self-reported violence (both reactive and proactive) it is noticeable that Meanness is no longer predictive. Hence, the ability of the Meanness scale to predict self-reported violence is due to the variance it shares with the Disinhibition scale, and the variance that is unique to the Meanness scale is not predictive of self-reported violence.

The Meanness scale is also positively associated with number of total convictions (although not statistically significant), as might be expected. However, in the multiple regression analysis, the beta-weight is negative ($p < .01$) indicating a seemingly paradoxical suggestion that increased Meanness is

associated with decreased convictions. Significant changes in beta weights when another variable is entered into the analysis are indicative of suppressor effects (MacKinnon, Krull, & Lockwood, 2000). In the present study, there is a strong positive association between the Disinhibition and Meanness scales and this is apparent in most other datasets using the TriPM (e.g., Wall et al, 2015). If high Disinhibition is strongly associated with being convicted for violence then it will also appear that those with high Meanness scores also have more convictions, even if there is no actual effect of this variable. It is only when Meanness is examined in relationship to levels of Disinhibition that the negative relationship emerged. This result was not expected and any explanation is tentative. It may be that individuals with strong traits of meanness spend longer in detention due to factors such as lack of remorse for their actions, poor relationships with staff or other inmates, etc., and therefore these individuals have less opportunity to commit further acts that are recorded within official criminal records. Such a result may also be specific to this rather unusual population of inmates who have a high treatment need and a personality disorder. Further work is needed to understand this somewhat paradoxical finding.

Disinhibition

The concept of disinhibition represents deficiencies in behavioral control, poor planning, a difficulty in controlling urges, and deficits in delayed gratification, particularly in the face of strong emotion (Weidacker et al., 2017). It is not surprising that the TriPM Disinhibition scale is strongly associated with nearly all the variables of violence and antisociality that we measured.

The definition of Disinhibition specifically refers to an elevation in angry/reactive violence. This is confirmed in the present sample by its correlation with the reactive scale of the RPQ, and that it is the sole predictor of RPQ reactive aggression in the regression analysis of the three TriPM subscales. Hence, the concept of disinhibition is strongly related to reactive violence. However, perhaps more surprisingly, disinhibition is also strongly linked to proactive violence, and this effect holds even when we isolate the unique variance associated with proactive violence. This result appears similar to that reported by Smith et al. (2013) in a sample of forensic inpatients using the PPI-R as a measure of psychopathy.

TriPM Disinhibition is also strongly related to criminal convictions, including those committed as a juvenile. This supports the idea of an individual who is not able to control his/her behavior and exhibits poor planning. The only exception to this pattern is the relatively weak association with the number of violent convictions.

Finally, TriPM Disinhibition is related to all measures of antisocial behavior in prison, and achieved the largest effect sizes of the three TriPM scales. Hence, this demonstrates that the Disinhibition scale has great utility in the assessment and management of challenging behaviors within institutions.

Strengths, limitations, and future directions

A major strength of the study is that we examined four different measures of antisocial behavior, ranging from self-report of past aggression, criminal records, exclusion from the prison due to rule-breaking, and self-report of violent behavior in a prison. However, there are several limitations to the study.

First, we used a self-report questionnaire to measure psychopathy. Clearly any measure that uses self-report is subject to problems such as lack of insight or deliberate dissimulation (Lilienfeld & Fowler, 2006). The apparent success of the TriPM in predicting violence and criminality demonstrated here, along with previous demonstrations of the value of the TriPM (see Patrick & Drislane, 2015), should encourage others to develop means of measuring these concepts that are not reliant upon self-report, such as clinically-rated scales.

Second, all of our measures of antisociality and violence are flawed in some manner. The RPQ is based on self-report and, therefore, the same criticisms of self-report measures discussed above are relevant. Measures of official records of criminal behavior rely upon detection of the activity and its successful prosecution. Most crime, and even most violent crime, is therefore missed, making official records only a poor proxy for actual rates of violence and criminal behavior. Thus, factors that lead a person to be more likely to be caught for a violent offence, such as poor planning, might appear to be correlated with criminal behavior even if there is no relationship between the actual rates of crime and the personality measure. What is instead being measured is an increased chance of being caught and

convicted. There may also be some problems relating to the post-dictive nature of using previous convictions, in that the crimes themselves may cause changes in TriPM scores. For example, a person who gets caught for a crime might regard him/herself as a worse planner than someone who does not get caught. Our third measure was that of exclusion from the prison due to rule-breaking behaviors. Again, it seems likely that much rule-breaking behavior is not detected. We also recorded prison behavior which allowed for a truly predictive test. The major problem with this measure is that offenders are not all treated in the same manner and, therefore, have different opportunities to engage in antisocial behaviors. For example, if someone is regarded as a high risk of future violence s/he may be segregated from others and given far less opportunity to be violent. In such a situation, the TriPM will not be related to actual violent acts despite being related to propensity for violence. Hence, all four measures have flaws, but we hope that together they provide a strong case on which to base our conclusions compared to any one outcome measure in isolation.

We have used statistical techniques to partial out variance to the different measures of personality and different types of violence. Conclusions must be carefully considered as to whether they have been drawn from the scale itself or from the residualised scale(s). While this type of statistical analysis may help understand the relationships between these scales, it must be realised that when a clinician uses a scale with an individual offender, such as the Meanness scale of the TriPM, the score will reflect the full scale and not just the unique variance associated with this scale (Lynam, Hoyle, & Newman, 2006).

Finally, HMP Grendon is a prison and therapeutic community for adult male offenders with a diagnosis of a personality disorder. Clearly, this lack of diversity needs to be addressed by similar studies in either other specific groups or in a large and diverse sample.

Implications for future research and practice

The results show that different aspects of the TriPM are associated with different forms of antisocial behaviors. However, the present research used a non-diverse sample of people who were all male, mainly Caucasian, were incarcerated, and were regarded as having a personality disorder. Research is needed to expand these findings to other populations with greater diversity and into other

settings. It would also be of interest to see how the different subscales of psychopathy are related to neuropsychological function such as impulsivity or risk taking (Snowden, Smith, & Gray, 2017), how this mediates aggressive behavior, and whether the dimensions can be used to inform intervention and enhance offender management.

Conclusion

We have shown the TriPM to be related to proactive and reactive aggression and to antisocial behavior both within and outside a secure setting. The TriPM is a quick and easy instrument to administer that holds great promise for the assessment and enhanced understanding of the psychopathic personality.

REFERENCES

- Babiak, P., Neumann, C. S., & Hare, R. D. (2010). Corporate psychopathy: Talking the walk. *Behavioral Sciences & the Law*, *28*(2), 174-193.
- Blais, J., Solodukhin, E., & Forth, A. E. (2014). A meta-analysis exploring the relationship between psychopathy and instrumental versus reactive violence. *Criminal Justice and Behavior*, *41*, 797-821. doi: 10.1177/0093854813519629
- Cima, M., & Raine, A. (2009). Distinct characteristics of psychopathy relate to different subtypes of aggression. *Personality and Individual Differences*, *47*, 835-840. doi: 10.1016/j.paid.2009.06.031
- Cleckley, H. (1941). *The mask of sanity*. St Louis, MO: Mosby.
- Cornell, D. G., Warren, J., Hawk, G., Stafford, E., Oram, G., & Pine, D. (1996). Psychopathy in instrumental and reactive violent offenders. *Journal of Consulting and Clinical Psychology*, *64*, 783-790.
- Edens, J. F., Poythress, N. G., Lifenfeld, S. O., Patrick, C. J., & Test, A. (2008). Further evidence of the divergent correlates of the psychopathic personality inventory factors: Prediction of institutional misconduct among male prisoners. *Psychological Assessment*, *20*, 86-91. doi: 10.1037/1040-3590.20.1.86
- Falkenbach, D., Poythress, N., Falki, M., & Manchak, S. (2007). Reliability and validity of two self-report measures of psychopathy. *Assessment*, *14*, 341-350. doi: 10.1177/1073191107305612
- Feshbach, S. (1964). The function of aggression and the regulation of aggressive drive. *Psychological Review*, *71*(4), 257-272.
- Fossati, A., Raine, A., Borroni, S., Bizzozero, A., Volpi, E., Santalucia, I., & Maffei, C. (2009). A cross-cultural study of the psychometric properties of the reactive-proactive aggression questionnaire among italian nonclinical adolescents. *Psychological Assessment*, *21*, 131-135. doi: 10.1037/a0014743
- Gray, N. S., Hill, C., McGleish, A., Timmons, D., MacCulloch, M. J., & Snowden, R. J. (2003). Prediction of violence and self-harm in mentally disordered offenders: A prospective study of

- the efficacy of HCR-20, PCL-R and psychiatric symptomology. *Journal of Consulting and Clinical Psychology, 71*, 443-451.
- Gray, N. S., Snowden, R. J., MacCulloch, S., Phillips, H., Taylor, J., & MacCulloch, M. J. (2004). Relative efficacy of criminological, clinical and personality measures of future risk of offending in mentally disordered offenders: a comparative study of HCR-20, PCL:SV and OGRS. *Journal of Consulting and Clinical Psychology, 72*, 523-530.
- Hare, R. D. (2003). *The Hare psychopathy checklist-revised 2nd Ed.* Toronto Ontario: Multi-Health Systems.
- Hare, R. D. (1999). *Without conscience.* New York: The Guilford Press.
- Hobson, J., Shine, J., & Roberts, R. (2000). How do psychopaths behave in a prison therapeutic community? *Psychology Crime and Law, 6*, 139-154.
- Kennealy, P. J., Skeem, J. L., Walters, G. D., & Camp, J. (2010). Do core interpersonal and affective traits of PCL-R psychopathy interact with antisocial behavior and disinhibition to predict violence? *Psychological Assessment, 22*, 569-580. doi: 10.1037/a0019618
- Laurell, J., Belfrage, H., & Hellström, Å. (2010). Facets on the psychopathy checklist screening version and instrumental violence in forensic psychiatric patients. *Criminal Behavior and Mental Health, 20*, 285-294. doi: doi:10.1002/cbm.779
- Lilienfeld, S. O., & Fowler, K. A. (2006). The self-report assessment of psychopathy. In C. J. Patrick (Ed.), *Handbook of Psychopathy* (pp. 107- 132). London: The Guilford Press.
- Lilienfeld, S. O., Waldman, I. D., Landfield, K., Watts, A. L., Rubenzer, S., & Faschingbauer, T. R. (2012). Fearless dominance and the US presidency: implications of psychopathic personality traits for successful and unsuccessful political leadership. *Journal of Personality and Social Psychology, 103*(3), 489.
- Lilienfeld, S. O., & Widows, M. R. (2005). *Psychopathic personality inventory-revised.* Lutz, Fla, USA: Psychological Assessment Resources, Inc.
- Lynam, D. R., Hoyle, R. H., & Newman, J. P. (2006). The perils of partialling - Cautionary tales from aggression and psychopathy. *Assessment, 13*, 328-341. doi: 10.1177/1073191106290562

- MacKinnon, D. P., Krull, J. L., & Lockwood, C. M. (2000). Equivalence of the mediation, confounding and suppression effect. *Prevention science : The official journal of the Society for Prevention Research, 1*, 173-181. doi: 10.1023/a:1026595011371
- Mathieu, C., Neumann, C., Babiak, P., & Hare, R. D. (2015). Corporate psychopathy and the full-range leadership model. *Assessment, 22*, 267-278. doi: 10.1177/1073191114545490
- McCord, W., & McCord, J. (1964). *The psychopath: An essay on the criminal mind*. Princeton: Van Nostrand.
- Neumann, C. S., Hare, R. D., & Pardini, D. A. (2015). Antisociality and the construct of psychopathy: Data from across the globe. *Journal of Personality, 83*, 678-692. doi: 10.1111/jopy.12127
- Nouvion, S. O., Cherek, D. R., Lane, S. D., Tcherernissine, O. V., & Liewing, L. M. (2007). Human proactive aggression: Association with personality disorders and psychopathy. *Aggressive Behavior, 33*, 552-562. doi: 10.1002/ab.20220
- Patrick, C. J. (2010). *Operationalizing the triarchic conceptualization of psychopathy: preliminary description of brief scales for assessment of Boldness, Meanness, and Disinhibition: Unpublished Manual*
- Patrick, C. J., & Drislane, L. E. (2015). Triarchic model of psychopathy: Origins, operationalizations, and observed linkages with personality and general psychopathology. *Journal of Personality, 83*, 627-643. doi: 10.1111/jopy.12119
- Patrick, C. J., Edens, J. F., Poythress, N. G., Lilienfeld, S. O., & Benning, S. D. (2006). Construct validity of the psychopathic personality inventory two-factor model with offenders. *Psychological Assessment, 18*, 204-208. doi: 10.1037/1040-3590.18.2.204
- Patrick, C. J., Fowles, D. C., & Krueger, R. F. (2009). Triarchic conceptualization of psychopathy: Developmental origins of disinhibition, boldness, meanness. *Development and Psychopathology, 21*, 913-938.
- Raine, A., Dodge, K., Loeber, R., Gatzke-Kopp, L., Lynam, D., Reynolds, C., . . . Liu, J. H. (2006). The reactive-proactive aggression questionnaire: Differential correlates of reactive and proactive aggression in adolescent boys. *Aggressive Behavior, 32*, 159-171. doi: 10.1002/ab.20115

- Salekin, R., Rogers, R., & Sewell, K. (1996). A review and meta-analysis of the psychopathy checklist and psychopathy checklist - revised: Predictive validity of dangerousness. *Clinical Psychology: Science and Practice, 3*, 203-215.
- Sellbom, M., & Phillips, T. R. (2013). An examination of the triarchic conceptualization of psychopathy in incarcerated and nonincarcerated samples. *Journal of Abnormal Psychology, 122*, 208-214. doi: 10.1037/a0029306
- Serin, R. C. (1991). Psychopathy and violence in criminals. *Journal of Interpersonal Violence, 6*, 423-431.
- Smith, S. T., Edens, J. F., & McDermott, B. E. (2013). Fearless dominance and self-centered impulsivity interact to predict predatory aggression among forensic psychiatric inpatients. *International Journal of Forensic Mental Health, 12*, 33-41. doi: 10.1080/14999013.2012.76018
- Snowden, R. J., Smith, C., & Gray, N. S. (2017). Risk taking and the triarchic model of psychopathy. *Journal of Clinical and Experimental Neuropsychology, 39*, 988-1001. doi: 10.1080/13803395.2017.1300236
- Stanley, J. H., Wygant, D. B., & Sellbom, M. (2013). Elaborating on the construct validity of the triarchic psychopathy measure in a criminal offender sample. *Journal of Personality Assessment, 95*, 343-350. doi: 10.1080/00223891.2012.735302
- Swogger, M. T., Walsh, Z., Houston, R. J., Cashman-Brown, S., & Conner, K. R. (2010). Psychopathy and axis I psychiatric disorders among criminal offenders: Relationships to impulsive and proactive aggression. *Aggressive Behavior, 36*, 45-53. doi: 10.1002/ab.20330
- Venables, N. C., Hall, J. R., & Patrick, C. J. (2014). Differentiating psychopathy from antisocial personality disorder: A triarchic model perspective. *Psychological Medicine, 44*, 1005-1013. doi: 10.1017/s003329171300161x
- Vitacco, M. J., Van Rybroek, G. J., Rogstad, J. E., Yahr, L. E., Tomony, J. D., & Saewert, E. (2009). Predicting short-term institutional aggression in forensic patients: A multi-trait method for understanding subtypes of aggression. *Law and Human Behavior, 33*, 308-319.

- Wall, T. D., Wygant, D. B., & Sellbom, M. (2015). Boldness explains a key difference between psychopathy and antisocial personality disorder. *Psychiatry Psychology and Law*, 22, 94-105. doi: 10.1080/13218719.2014.919627
- Walsh, Z., Swogger, M. T., & Kosson, D. S. (2009). Psychopathy and instrumental violence: Facet level relationships. *Journal of Personality Disorders*, 23, 416-424.
- Wechsler, D. (2001). *Wechsler test of adult reading (WTAR-UK)*: Harcourt Assessment.
- Weidacker, K., O'Farrell, K. R., Gray, N. S., Johnston, S. J., & Snowden, R. J. (2017). Psychopathy and impulsivity: The relationship of the triarchic model of psychopathy to different forms of impulsivity in offenders and community participants. *Personality and Individual Differences*, 114, 134-139. doi: 10.1016/j.paid.2017.03.069
- Watts, A. L., Lilienfeld, S. O., Smith, S. F., Miller, J. D., Campbell, W. K., Waldman, I. D., . . . Faschingbauer, T. J. (2013). The double-edged sword of grandiose narcissism: Implications for successful and unsuccessful leadership among US presidents. *Psychological Science*, 24(12), 2379-2389..
- Williamson, S., Hare, R. D., & Wong, S. (1987). Violence: Criminal psychopaths and their victims. *Canadian Journal of Behavioral Science*, 19, 454-462. doi: 10.1037/h0080003
- Woodworth, M., & Porter, S. (2002). In cold blood: Characteristics of criminal homicides as a function of psychopathy. *Journal of Abnormal Psychology*, 111, 436-455.

Table 1. Descriptive statistics and relationships between the measures of psychopathy.

	Total	Boldness	Meanness	Disinhibition
Boldness	.52**	-		
Meanness	.88**	.27*	-	
Disinhibition	.85**	.14	.66**	-
<i>Mean</i>	76.37	26.70	17.75	31.83
<i>SD</i>	25.19	8.08	11.77	12.54

+ $p < .10$, * $p < .01$, ** $p < .001$

Table 2. *Correlations and regression coefficients between the TriPM and self-reported violence (n = 89). Figures in square brackets represent the 95% confidence intervals.*

	Proactive			Reactive		
	<i>r</i>	<i>R unique</i>	β	<i>r</i>	<i>R unique</i>	β
TriPM Total	.63** [.48, .74]			.50** [.34, .63]		
Boldness	.28* [.07, .46]	.34** [.14, .51]	.23* [.02, .42]	.12 [-.09, .30]	-.21 ⁺ [-.40, -.01]	.05 [-.16, .26]
Meanness	.34** [.14, .51]	.23* [.02, .42]	.06 [-.15, .27]	.43** [.24, .59]	.05 [-.16, .26]	.13 [-.08, .33]
Disinhibition	.61** [.46, .73]	.32* [.12, .50]	.56** [.40, .69]	.53** [.36, .67]	.03 [-.18, .24]	.44** [.26, .59]

+ $p < .10$, * $p < .01$, ** $p < .001$

Table 3. *Correlations (Pearson's r or Spearman's rho) and regression coefficients between the TriPM and past convictions (n = 107). Figures in brackets represent the 95% confidence interval.*

	Total Convictions		Violent convictions		Juvenile convictions	
	<i>r</i>	β	<i>r</i>	β	<i>rho</i>	β
TriPM Total	.29** [.11, .45]		.18+ [-.01, .36]		.27* [.09, .44]	
Boldness	.09 [-.10, .27]	.09 [-.11, .29]	.01 [-.18, .20]	-.04 [-.28, .19]	.02 [-.17, .21]	.03 [-.18, .24]
Meanness	.10 [-.09, .28]	-.32* [-.48, -.14]	.18+ [.00, .36]	.12 [-.08, .32]	.18+ [.00, .36]	-.12 [-.34, .10]
Disinhibition	.42** [.25, .60]	.62** [.38, .86]	.18+ [.00, .36]	.11 [-.11, .33]	.35** [.18, .50]	.43** [.21, .65]

+ $p < .10$, * $p < .01$, ** $p < .001$.

Table 4.

Comparison of TriPM scores between groups that self-reported these behaviors or not over the previous 12 months. Figures in brackets represent the 95% confidence interval.

Violence	Yes	No	Hedges g
Others	(n = 4)	No (n = 57)	
TriPM Total	100.00	67.98*	1.40 [0.36, 2.45]
Boldness	31.30	27.07	0.61 [-0.41, 1.63]
Meanness	26.05	14.07+	1.04 [0.00, 2.06]
Disinhibition	42.00	26.84*	1.33 [0.28, 2.37]
Threats	Yes (n = 11)	No (n = 50)	
TriPM Total	88.36	66.06*	0.99 [0.31, 1.66]
Boldness	30.73	26.63+	0.21 [-0.44, 0.87]
Meanness	21.16	13.50+	0.64 [-0.02, 1.30]
Disinhibition	36.45	25.94*	0.93 [0.25, 1.60]
Property	Yes (n = 18)	No (n = 43)	
TriPM Total	83.28	64.56*	0.83 [0.26, 1.40]
Boldness	28.61	26.84	0.24 [-0.31, 0.79]
Meanness	20.89	12.37*	0.72 [0.16, 1.29]
Disinhibition	33.78	25.35*	0.74 [0.17, 1.30]

+ $p < .10$, * $p < .01$, ** $p < .001$.

Appendix A

RECENT AGGRESSION QUESTIONNAIRE

Below is a list of aggressive behaviors that sometimes occur. We want you to think about your behavior over the last 12 MONTHS and tell us whether you have behaved in any of these ways, and if so how often this has occurred.

	Never (0)	Once (1)	A few times (2-3)	Several times (4 or more)
1. Yelled at or sworn at a person				
2. Threatened to hurt somebody				
3. Broke something deliberately				
4. Hit an object with hand or head etc.				
5. Threw something at somebody				
6. Grabbed, scratched or pushed somebody				
7. Hurt or tried to hurt somebody (punch, kick, bite, weapon, etc.)				
8. Hurt myself in any manner (cut, burnt, took tablets, etc.)				
9. Attempted to kill myself				