The combined roles of moral emotion and moral rules in explaining acts of violence using a situational action theory perspective
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The roles of shame and guilt, and their relationships to empathy, have not been modelled adequately as key factors in moral decision-making in the study of violence. The role of moral emotion has been neglected in existing criminological research and this study seeks to develop current explanations of the comprehensive myriad of factors that play a role in moral crime decision-making. This research will test the different roles of empathy, shame, and guilt in violence decision-making using a situational action theory perspective. Data taken from the Peterborough Adolescent and Young Adult Development Study (PADS+), a longitudinal study with a large representative sample, provides quantitative questionnaire indices to enable comparison of a persistent and frequent violent offender subsample (N = 48) with the remaining PADS+ study sample (N = 607). A striking majority of violent offenders report that they do not think it is wrong to commit violence, and do not care about it, i.e. they lack shame and guilt, and report that violence comes as a morally acceptable and natural action alternative. Furthermore, violent offenders do not register the predicament of their victims; there is a distinct lack of empathy. This paper demonstrates a key finding which has rarely been explored to date; regression analyses reveal an interaction effect whereby individuals with weak shame and guilt, combined specifically with weak moral rules, are more likely to commit acts of violence. The study findings provide strong support for the situational action theory of the role of weak morality in violence decision-making. In order to reduce the possibility of crime being seen as an action alternative, moral development programs should be developed and administered in childhood.

Keywords: Empathy, shame, guilt, moral emotion, morality, violence decision-making
It isn’t wrong and I don’t feel bad: weak empathy, shame, guilt, and moral rules in violent offenders

Introduction

There are few existing criminological theories that directly incorporate the role of moral emotion or morality in the study of crime. Some criminologists, such as Bottoms (2002, p. 24) have argued that ‘If they are to be true to their calling, all criminologists have to be interested in morality’, but it remains to be explored in depth in criminological research (Tittle, 2007; Wikström, Oberwittler, Treiber, & Hardie, 2012; Wikström, Treiber, & Hardie, 2012; Wikström & Treiber, 2009a). Typically, criminological theories that have focused on individual or person-level factors have ignored the role of morality (including moral emotion); rather, the focus has been on self-control (Gottfredson & Hirschi, 1990), strain (Agnew, 1985), and/or rational choice in weighing costs and benefits (Cohen & Felson, 1979; Cornish & Clarke, 1986). This has led to an under-estimation of the role of the more intuitive, unconscious role of moral emotion in criminal decision-making (Treiber, 2011). A purely rational view is unrealistic in real-life terms because emotions undoubtedly play a role in many everyday action tendencies (Blair, 2017; Damasio, 1994), to which criminal behaviour is no exception (Clay-Warner, 2014; Dippong & Fitch, 2017). Furthermore, by viewing emotion as a variable that can change depending on the specific moral evaluation in question rather than as a constant, new insight can be gained into the moral decision-making process (Helion & Ochsner, 2016).

Although strain theory (Agnew, 1985, 2001, 2014), reintegrative shaming theory (Braithwaite & Braithwaite, 2001; Braithwaite, 1989, 2000; Sherman, 1993), and Anderson (1999, see also Anderson & Bushman 2002) do partially acknowledge the role of emotion, often they do not elaborate or provide underdeveloped explanations of
the mechanisms that link moral emotion to crime.¹ Of the studies that have examined
the relationship between morality and crime outcomes, they have generally used moral
values or rules measures and the next useful steps are to measure and incorporate moral
emotions (Wikström & Svensson, 2010). Existing research that will be outlined below
often fails to address various issues: first, existing research studies explore one or two
emotions in isolation but do not account for the role of the remaining moral emotions.
Second, studies do not delve into a detailed discussion or interpretation of their
findings; i.e. they fail to discuss the proposed relationship between moral emotions and
other key variables. For example, shame and guilt are viewed as deterrents in crime
prevention (Braithwaite, 1989), rather than as key contributors to the strength of overall
morality that inform whether acts of crime are viewed as morally acceptable.

Social learning theory (Bandura, 1977) dictates that young children learn from,
mirror, and imitate the values, attitudes, and actions of people that they spend time with
and the theory can provide compelling arguments for the importance of the role of
moral behaviour of significant others in the development of personal morality.
Increases in moral emotion capacities are likely to be facilitated by moral displays from
significant others in childhood and adolescence, including parenting style, school-based
teaching style, and relationships with peers (Svennson et al, 2016).

Situational action theory (SAT) supports the notion that morality is a
fundamental predictor of crime involvement (Wikstrom et al, 2012). Situational action
theory is the most suitable theoretical model for empirical testing of the role of moral
emotion in crime because it fully acknowledges the crucial importance of various moral
measures of interest (Pauwels, Svensson & Hirtenlehner, 2018); moral rules, moral

¹ [Author(s)] provide a detailed evaluation of the extent to which these theories incorporate the role of
moral emotion specifically.
emotion, and empathy. A further reason to adopt the SAT framework is that its perception-choice process offers a mechanism by which moral emotion may influence crime decision-making. According to SAT, individual-level factors and environmental-level factors both come together in the perception-choice process that leads to an act of crime (Wikstrom & Treiber, 2009a). The premise of the perception-choice process is that different people (for example, with different levels of moral emotion) act in different environments, and their interaction is fundamental to explaining behaviour; including crime. The perception-choice mechanism involves a two part process; the perception of action options (specifically influenced by moral emotion), followed by the selection (choice) of one of them to act upon (Wikstrom & Treiber, 2009a).

This research seeks to build upon existing explanations of the roles of shame, guilt, and empathy in offending decisions by examining how they inter-relate via moral reasoning. The need for this attempt to disentangle the role that empathy plays in violence has been highlighted (Joliffe & Murray, 2012). This will be achieved by integrating the various moral measures into situational action theory’s perception-choice process in an attempt to offer more understanding of the offender decision-making process.

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2 Individual morality interacts with the setting features in determining whether crime is perceived for action. Although in reality situations are less extreme and more nuanced, this can be explained using 4 possible individual/environment scenarios. If morality is weak and the environment is also conducive to crime, individual and environment correspond and crime is more likely to occur. If morality is strong and the environment is also not conducive to crime, individual and environment correspond and crime is not likely to occur (Wikström, 2009a). Finally, if there is a mismatch between morality and the environment and one if conducive to crime and the other is not, controls come into play (see Wikström & Treiber (2009b).
The roles of empathy, shame, and guilt in crime

Existing research confirms shame and guilt to be of crucial importance in the explanation of offending (Treiber, 2013), and furthermore, they are found to mediate the effects of other variables (such as parental monitoring) in explaining crime (Svensson, Weerman, Pauwels, Bruinsma, & Bernasco, 2013; Svensson, 2004; Svensson, 2016). Wikström & Svensson (2008) found that both in an English and Swedish sample weak shame predicted violence, and other research finds that weak shame predicts antisocial behaviour (Olthof, 2012). Weak guilt and shame are correlated to aggression (Pornari & Wood, 2010; Roos, Salmivalli, & Hodges, 2011), the intention to engage in a deception (Seiter & Bruschke, 2007), and offending itself (Schalkwijk, Stams, Stegge, Dekker, & Peen, 2014). Shame and guilt have ‘presumed roles in inhibiting immoral, socially undesirable behaviour and in fostering altruistic, prosocial behaviour’ (Tangney, Stuewig, & Hastings, 2011, p. 1). A meta-analysis of 25 studies showed significant negative associations between guilt and delinquency ($r = -.278$) and between shame and delinquency ($r = -.130$) regardless of the type of shame and guilt measure or the type of crime (Spruit, Schalkwijk, van Vugt, & Stams, 2016).

However, not all research finds evidence of a link between shame and crime; some contrasting research findings state that shame does not play a role in rule-following behaviour because it motivates devaluation, defensiveness, anger, and aggression (Tangney & Fischer, 1995). Likewise, there is work that has linked shame to more, rather than less, aggression and violent behaviour (Elison, Garofalo, & Velotti (2014). Although these findings are in the minority, they oppose the theoretical

3 Inconsistencies between findings from such studies and the hypotheses of the current study are likely to be partially explained by the different definitions (and therefore data measures) of shame and guilt employed across studies.
propositions of the current study, and highlight that the relationship between shame and crime may be more complex than the relationship between guilt and crime.

The relationship between guilt and offending behaviour has received more research attention than shame. Weak guilt is found to predict violence (Beyers, Loeber, Wikström, & Stouthamer-Loeber, 2001; Krettenauer, Campbell, & Hertz, 2013; Tibbetts, 2003). Weaker guilt is reported by individuals with antisocial personality disorder compared to matched controls (Dinn & Harris, 2000), and individuals with weak guilt are more likely to engage in unethical behaviour and delinquency (Cohen, Panter, Turan, Morse, & Kim, 2013; Malti, Gasser, & Buchmann, 2009; Sobhani & Bechara, 2011), in risky and illegal behaviours, have more time spent in prison, more criminal convictions (Tangney et al., 2011), and engage in substance use and criminal behaviour (Tangney & Fischer, 1995). Children that commit rule-breaking behaviour are found to lack guilt from 3-4 years of age (Frick, Ray, Thornton, & Kahn, 2013) and furthermore, feelings of guilt about past violence have been found to prevent subsequent involvement in violence (Bowes & McMurran, 2013). Malti & Krettenauer (2013) carried out a meta-analysis of 42 studies (over 8,000 participants) and found that guilt in particular plays a significant role in the moral behaviour (including antisocial behaviour) of children and adolescents. The link between guilt and various levels of delinquent behaviour has been replicated using various methodologies, including hypothetical scenarios (Krettenauer, Asendorpf, & Nunner-Winkler, 2013) and self-reports and observer reports of guilt (Cohen et al., 2013).

As well as shame and guilt, empathy is also believed to play a fundamental role in morality (Eisenberg, 2000). The role of empathy in crime has attracted attention in recent years (Posick et al., 2012). In his 2010 American Society of Criminology presidential address, Francis Cullen urged criminologists to ‘recognize the importance
of examining not only negative but positive emotions, such as empathy’ (Cullen, 2011, p. 314). Although researchers state that empathy is a core concern in understanding criminality (Hepper, Hart, Meek, Cisek, & Sedikides, 2013), further work can develop understandings of the role of empathy in crime decision-making (Joliffe & Murray, 2012).

Empathy has been found to be a key factor in distinguishing between prosocial behaviour and non-prosocial behaviour, including offending (Baron-Cohen, 2011; Bock & Hosser, 2014; Brauer & Tittle, 2017; Frick & Morris, 2004; Hoffman, 2000; Joliffe & Farrington, 2004; Mali et al., 2009; Marshall, Marshall, Serran, & O’Brien, 2009; Miller & Eisenberg, 1988; Posick et al., 2012; Spinella, 2005). Furthermore, individuals with higher empathy show moderate-strong negative associations with aggressive behaviour (Vachon & Lynam, 2016), especially for offenders (Llorca-Mestre, Malonda-Vidal, Samper-Garcia, 2017). Further, those with higher empathy are found to be more successful in reducing aggression and delinquency (Crockett, Clark, Hauser, & Robbins, 2010). Lack of empathy is renowned to be the central characteristic of violent psychopathic behaviour (Anderson & Kiehl, 2012; Blair, 2017; Blair, Mitchell, & Blair, 2005; Farrington, 2005; Fine & Kennett, 2004). The application of empathy has been found to be particularly impaired in violent situations; non-moral emotions such as fear and anger can lead to an increase in self-focus and a corresponding decrease in other-focus, i.e. in empathy and shame (Barnett & Mann, 2013).

It is important to note that other research finds weak-moderate correlations between empathy and antisocial behaviour (Day, Casey, & Gerace, 2010; Joliffe & Farrington, 2004; Miller & Eisenberg, 1988), including substance abuse and involvement in crime (Joliffe & Farrington, 2006; Joliffe & Murray, 2012; Schalkwijk
et al., 2014; van Langen, Wissink, van Vugt, Van der Stouwe, & Stams, 2014). It remains to be explored whether this is because empathy has an indirect link to crime via its role in the ability to exercise moral emotion, or whether existing empathy measurement tools are flawed (Vachon, Lynam, & Johnson, 2014).

The roles of empathy, shame and guilt in crime involvement in a situational action theory framework

To date, the role of moral emotion in crime involvement has not been as well developed as other parts of situational action theory (Wikström et al., 2012; Wikström & Svensson, 2008; Wikström & Treiber, 2009a; Wikström, Tseloni, & Karlis, 2011; Wikström, 2005, 2006, 2009, 2010, 2014). Although the theory prioritises the importance of clear definitions of concepts and mechanisms, further work is required in order to build a comprehensive explanation of the specific role of moral emotion in crime.

Moral acts are defined as acts that are governed by what is right or wrong to do in a particular circumstance (Wikström & Treiber, 2009a; Wikström, 2006). Acts of crime are characterised as the breaking of moral rules as defined by law; that is, the law prescribes which acts are legally permissible. This study will focus on violence as an example crime type, but crucially, the role that moral emotion plays in the occurrence of crime is hypothesised to be the same regardless of the crime type (see Wikström & Treiber 2009; Bouhana & Wikström 2008; Wikström, Tseloni, amd Karlis 2011).

According to situational action theory, the moral emotions that are relevant for an explanation of crime decision-making are shame and guilt because these moral

4 Situational action theory has been specifically applied to violence (Wikström & Treiber, 2009), terrorism (Bouhana & Wikström, 2008), shoplifting, theft from cars, and vandalism (Wikström, Tseloni, & Karlis, 2011) but crucially attempts to explain all types of crime with a unified theory.
emotions are widely recognised to be relevant to moral behaviour (Eisenberg, 2000; Tangney & Fischer, 1995; Tangney, Stuewig, & Mashek., 2007). Guilt is defined as a negative feeling, often experienced as a result of an action, which is felt inwardly towards oneself (Wikström et al., 2012). Guilt can be anticipated on contemplation of an action and is measured along a spectrum; strong guilt indicates that one cares very much about the potential breaking of a moral rule, whereas weak guilt indicates that one does not care very much about the potential breaking of a moral rule. Anticipated shame is defined as a negative feeling, not necessarily experienced as a result of an action, which is felt in the presence or consideration of others (Wikström et al., 2012). Anticipated shame can also be measured along a spectrum; strong shame indicates a perception that others care very much about the potential breaking of a moral rule, whereas weak shame indicates a perception that others do not care very much about the potential breaking of a moral rule.\(^5\)

According to situational action theory, actions are seen as morally acceptable or unacceptable depending on the act-specific moral rule and the act-specific moral emotion (Wikstrom & Treiber, 2009a). Shame and guilt are hypothesised to contribute to moral rules to form overall individual morality; if one doesn’t feel it is wrong to commit an act, and subscribes to that weak moral rule with weak emotional intensity (feels weak shame or guilt regarding the moral act in question) this taken together will play a role in whether the act of offending will take place (see figure 1). Essentially, moral emotion and moral rules can be viewed as two measures of the overall construct of morality; whether a personal subscribes to a moral rule (moral rules) and the intensity to which they subscribe to the moral rule (moral emotions). Individuals with weak

\(^5\) One of the primary differences between shame and guilt is that shame is often experienced as a global evaluation of the self, whereas guilt is often experienced with regards to a specific act. The differences and similarities between shame and guilt are discussed in more detail in Elison (2005).
overall morality are more likely to see crime as a morally acceptable action alternative.\(^\text{6}\)

Many people simply do not perceive crime to be a potential behavioural action alternative and this is primarily determined by their strong moral emotions and moral rules (Wikstrom et al, 2012); it follows logic that if crime is not perceived as an action alternative, crime will not occur (Wikstrom & Treiber, 2009a).\(^\text{7}\)

This paper adds nuance to the existing field of research that finds an association between moral emotion and offending. This paper also contributes to the existing SAT framework by introducing the concept of empathy and its relationship to shame and guilt (see figure 1). The current study defines the ability to exercise empathy as an emotional process and trait (as opposed to a state or emotion).\(^\text{8}\) A strong ability to exercise empathy is hypothesised to play a role in the increased potential to feel shame and guilt during the crime decision-making process. Inversely, if an individual has a weak ability to exercise empathy, this is hypothesised to play a role in the reduced possibility to feel shame and guilt during the crime decision-making process. Without consideration of the consequences of actions for others, or a perception of the judgment that others would make, feelings of shame and guilt may not arise (see Blair, 2017).\(^\text{9}\)

Empathy involves a personal evaluation that requires knowledge or perception of how others would view the act in question; it is variable depending on the circumstances.

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\(^6\) The morality component of individual propensity is crucially important because it is relevant to all acts of crime. Self-control is also important but only relevant under specific circumstances (see Wikstrom & Svensson, 2010; Wikstrom & Treiber, 2007).

\(^7\) Habitual violence develops and persists when individuals with weak morality repeatedly spend time in settings that are conducive to crime (Wikström & Treiber, 2009). For example, an individual with weak morality (i.e. that one does not think violence is very wrong, and does not feel shame and guilt about violence) who spends time in pubs and clubs every Saturday night and often commits violence, gradually, week after week, may automatically perceive only one alternative for action when a potentially violent situation arises: to be violent.

\(^8\) It is important to note that although the general theory of crime believes lack of empathy to be one of the six components of self-control (Gottfredson & Hirschi, 1990), SAT takes an oppositional view that self-control is a distinct concept from empathy and is only relevant when moral rules are weak but the environment is not conducive to crime, i.e. when there is something to control in the decision-making process (Wikstrom & Treiber, 2007).

\(^9\) A detailed outline of the definitions and concepts of empathy, shame and guilt (and their comparison and relationships to one another) can be found in Hoffman (1982).
Empathy plays a different role to shame and guilt in the decision-making process that leads to an act of violence. The current study hypothesises that a poor general ability to exercise empathy will reduce the possibility to feel shame and guilt. If the crime-specific moral rule is weak-moderate, weak shame and guilt, by way of providing a low intensity to which they subscribe to the moral rule, results in weak overall morality and allows crime to be seen as a morally acceptable and viable action alternative. Inversely, it is hypothesised that if one is aware that their subsequent action will cause emotional or physical harm to someone via a strong ability to exercise empathy, this increases the possibility to feel negative feelings of shame and guilt, and overall morality will be strengthened (see figure 1). In this case, it is hypothesised that violence will not be perceived as an action alternative because it is not seen as a morally acceptable behaviour; and violence will not occur.

Method

Data were collected with the Peterborough Adolescent and Young Adult Development Study (PADS+); a longitudinal study that follows 700 young people from the age of 12 into adolescence and adulthood and was designed to test the role of morality amongst other numerous factors in crime involvement. The sample was recruited in 2002 using a random sampling method from a pool of young people listed to begin year 7 at school (school sampling frame). At age 12 when the study began, there were equal numbers by sex, 83% were white, and family occupational social class was varied (22% lower working class, 39% working class, 34% middle class, 5% upper

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10 For the current study, the focus is upon moral emotion; however, motivation, decision-making type, and controls also play a key role in this process (see Wikström et al., 2012).
11 Research in support of an association between empathy and the possibility to feel shame and guilt is outlined elsewhere (Fraser, 1996; Hoffman, 1982; Lewis, 1971).
12 Young people from Independent Schools and Peterborough Youth Offending Service were also included to ensure sampling of young people not captured by the school sampling frame.
class). In the current study, seven waves of questionnaire data are used from 2003-2012. The retention rate for the full study sample has remained very high (92% at wave 7).

Peterborough is a medium-sized UK city located in Cambridgeshire with a typical crime rate (per 1,000 population) when compared to other similar sized areas in the UK (Office of National Statistics, 2018). There is variation in area deprivation, i.e. it contains areas of high and low disadvantage, and there is a mixed ethnic composition (particularly, people of Pakistani, Indian, Irish, Polish, Italian, and Caribbean descent) within the population. This variation in ethnicity is comparable to the rest of the UK (10.3% of Peterborough residents responded as non-white compared to 9.1% UK average, Office for National Statistics, 2011).

All of the data presented was collected using a structured paper questionnaire which was administered in person at the participants’ schools, homes, or public locations (such as library conference rooms). Questionnaire scales included empathy, shame, guilt, moral rules, violence and total crime scales (all of which are described in [author(s)]). The general empathy scale constitutes 17 items using examples from specific, everyday occurrences (for example, ‘Other people’s problems are theirs, not mine’) and was developed specifically for the current study. The scale includes a combination of cognitive empathy items (identifying another person’s viewpoint) as well affective empathy items (feeling emotional congruence with another person’s viewpoint). The scale items refer to a range of small embarrassments to more serious or emotionally painful situations. The response options are ‘Strongly agree’, ‘Mostly agree, and ‘Mostly disagree’, and ‘Strongly disagree’. Descriptive statistics indicate that there is variation in the data (normal distribution), that the internal consistency of the scale is reasonably high and that the scale items are closely related with a Cronbach's alpha of 0.81.
The shame scale constitutes six items for which participants report how ashamed they would feel (in front of parents, teachers, or best friends) if they were caught shoplifting or breaking into a car. For example, ‘If you were caught shoplifting and your parents found out about it, would you feel ashamed?’. Although the items on the shame scale specifically include shoplifting and car crime as example crime types, the total scale score is assumed to represent ‘general’ shame with regards to committing all acts of crime because they can be grouped together as moral transgressions. The guilt scale constitutes six items for which participants report how guilty they would feel for committing various acts, including moral transgressions not defined by law (legal acts), as well as acts of crime (illegal acts). For example, ‘Would you feel guilty if you broke into a car and stole something?’. Although the scale items measure anticipated shame and guilt, this is not viewed as problematic for the theoretical aims of the current study; anticipated shame and guilt is found to be a good indicator of experienced shame and guilt in real-life situations, as is evidenced in a comparison of qualitative and quantitative data in [Author(s)]. For the shame and guilt scales, the response options are ‘No, not at all’, ‘Yes, a little’, and ‘Yes, very much’. Both scales were developed in 2004 by Professor Wikström (Director of the Peterborough Adolescent and Young Adult Development study) and administered in waves 2-7.

The population distribution for the shame scale is negatively skewed; indicating that the majority of the participant sample report strong shame in response to carrying out hypothetical moral transgressions and acts of crime. Data from both scales indicate that there is variation in the data (normal distribution for guilt scale), that the internal consistency of the scale is reasonably high and that the scale items are closely related (see table 1). The shame and guilt scale alphas (Cronbach's alpha of 0.94 for shame scale and 0.88 for guilt scale) were calculated by summing 6 total scale item scores for
each of the 6 waves (ages 14-21). A comparison of the shame and guilt scale reveals
that the mean guilt score is lower and there are no large differences in the range and
standard deviation. A promax factor analysis of all wave 7 shame and guilt scale items
(6 shame items and 6 guilt items) confirms that shame and guilt can be treated as
distinct concepts; with ‘general shame’ (4 of the shame items loading above .4), and
‘general guilt’ (5 of the guilt items loading above .4) emerging as distinct factors.

The moral rules scale constitutes 16 items for which participants report how
correct or wrong they think certain acts (of differing severity) are in particular
circumstances. As with the guilt scale, the item acts include moral transgressions not
defined by law (legal acts, e.g ‘How right or wrong do you think it is to lie, disobey, or
talk back to teachers?’) as well as acts of crime (illegal acts, e.g. ‘How right or wrong
do you think it is to smash a street light for fun?’). The response options are ‘Not wrong
at all, ‘A little wrong, ‘Wrong’, and ‘Very wrong’. The moral rules scale is a modified
version of the Pittsburgh Youth Study prosocial values scale (Loeber, Farrington,
Stouthamer-Loeber, Moffitt, & Caspi, 1998); it was developed in 2001 by Professor
Wikström and administered in waves 1-7. Descriptive statistics indicate that there is
variation in the data; that the internal consistency of the scale is reasonably high, and
the scale items are closely related. Cronbach's alpha varies from 0.88-0.90 for waves 1-
7 (see table 1).

Assault frequency (waves 1-7) and total crime (which covers several crime types
including vandalism, arson, and burglary) frequency data have been used in the current
study. Moral emotion and moral rules are modelled to predict past committed violence
with the understanding that first, moral emotions and moral rules are found to be
relatively stable over time (see Wikstrom et al, 2012) and second, that past violence is
an indicator of future violence. The prevalence of assault was 58% (n=373) in waves 1-
7 combined, i.e. 58% of participants had self-reported at least one act of assault from age 12 to age 21, ranging from minor to more serious incidents.

Participants were selected for inclusion in the violent subsample if they had reported violence (assault and/or robbery) in the preceding interview wave (wave 6, 2010, aged 19) and exceeded 2 or more of the criteria thresholds regarding violence frequency (15+), violence duration (5+ interview waves), and violence age of onset (below age 11). Early age of violence onset (onset before age 11) was included in the sampling criteria because existing PADS+ findings state that early age of onset offenders, compared to late onset offenders, are responsible for the majority of crimes from interview waves 1-5, are more likely to continue offending as they get older, and are more likely to offend with a higher frequency (Wikström et al., 2012). In order to increase the likelihood that most active violent offenders had been captured in the subsample, participants with medium-high violence (violence frequency of 10+, N=5) in the immediately preceding waves (interview waves 5 and 6) were also added to the sample. Qualitative interviews were conducted specifically to explore the real-life circumstances under which persistent and frequent violent offenders carry out violence. The rationale for the interview subsampling was that in order to facilitate discussion of recent violence during interview, prolific offenders were required. The majority of the participant sample was male (39 male, 9 female). There is no significant association between the ethnicity ($\chi^2(1) = 1.3, p > .05$) or family social position (which is measured using parental income, parental education, and parental employment level) ($\chi^2(4) = 6.4, p > .05$) between the violent subsample (N=48) and the rest of the PADS+ study sample (N=607).
Results

For all analyses, the higher the empathy, shame, and guilt score, the stronger the empathy, shame and guilt reported; and the higher the moral rules score, the more young people think it is wrong to commit moral transgressions and acts of crime. The data analytic plan was as follows: first, investigate whether empathy is required for shame and guilt (OLS regression). Second, explore whether there is a difference in empathy, shame, guilt, and moral rules between the violent subsample and the rest of the sample (estimates of effect size). Third, test whether shame, guilt, and moral rules predict violence involvement in the full sample (OLS regression). Finally, and crucially, explore whether moral emotion, moral rules, and their interaction, predict involvement in violence for the full sample (OLS regression models 1 & 2).

Basic control variables are not included in the regression analyses because they are not theorised to be explanatory variables of violence or crime. For example, there is no causal relationship between gender and crime (being male does not dictate that you will commit crime, but rather certain factors that relate to being male can play a role in the development of morality, as well play a role in the choice of settings that males may partake in). In contrast, other variables which are deemed to be theoretically relevant are not included here because they are only specifically important under limited and particular setting circumstances and have been tested extensively elsewhere (see Pauwels, Svensson, and Hirtenlehner, 2018 for a review).13

13 For example, self-control is found to be important specifically when the environment or setting is conducive to crime (e.g., there are no supervisors or authority figures present, and provocations are present) because in these situations, there is something to control (Wikström & Treiber, 2007).
Is empathy required in order to anticipate shame and guilt?

Using Ordinary least squares (OLS) regression (enter method) for the full sample (N=655), general empathy significantly predicts shame ($R^2 = .14$, $\beta = .376$, $p < .01$) and guilt ($R^2 = .19$, $\beta = .440$, $p < .01$). This provides evidence of a basic association that supports the hypotheses of the current study; that general empathy plays a significant role in the possibility to feel shame and guilt. It should be noted that $R^2$ values are low; a path model is constructed in [Author(s)] and reveals the strongest path is from general empathy, mediated by guilt, to violence (as opposed to a direct link to violence). This provides support for the two-part mechanism proposed in the current study; that empathy plays a role in the possibility to feel guilt, and that guilt plays a role in violence.

Is there a difference in empathy, shame, guilt, and moral rules between the violent (prolific violence) subsample and the rest of the sample (zero-moderate violence)?

The violent subsample participants report significantly lower mean scores for empathy, shame, guilt, and moral rules, than the rest of the sample at wave 7 (aged 21) (see table 1.).\(^{14}\) The maximum scale score is reported in brackets next to each data measure. The assault frequency and total crime frequency measures are total additive scores of measures collected at waves 1-7 (ages 13-21). The estimates of effect size, or eta\(^2\) (which measure the strength of the difference between the means for the two samples) are higher for shame and guilt than for the empathy measures. This indicates that there is a stronger difference between shame and guilt (compared to empathy) between the violent subsample and the rest of the sample. This provides evidence of a basic association that supports the hypotheses of the current study that empathy plays an

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\(^{14}\) All violent subsample participants carried out qualitative interviews regarding their morality with regards to their violence; results strongly support the conclusions of the current study.
indirect role in violence whilst shame and guilt are more proximal to an explanation of violent behaviour. There is a significant negative correlation between moral emotion (shame and guilt combined) and assault frequency for the violent subsample ($R^2 = .22$, correlation -.47, $p < .001$) and the rest of the study sample ($R^2 = .17$, correlation -.41, $p < .001$). It should be noted that $R^2$ values are low; this is because moral rules, as well as settings factors not explored in the current study, are also deemed to be of crucial importance in offending decisions. For the violent subsample in particular, there is a clear negative correlation, i.e. individuals with weaker shame and guilt report more self-reported assault. Subsequent analyses will first illustrate the importance of both moral rules and moral emotion in explaining violence, and second, provide evidence for an interaction effect between moral emotion and moral rules in predicting overall crime frequency.

Do shame, guilt, and moral rules predict involvement in violence for the full sample?

A regression analysis (Ordinary least squares OLS) indicates the extent to which shame, guilt, and moral rules together can predict violence involvement for the full PADS+ sample (see table 2). Model I explains 31% of the variance in assault frequency; guilt is a significant predictor ($\beta = -.507$, $p < .001$), however shame is not a

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15 A detailed comparison of the violent subsample and the rest of the sample for the empathy, shame, and guilt scales, including discussion of individual scale items, can be found in [author(s)].

16 Shame and guilt ($r^2 = .45$) are combined to form ‘moral emotion’.

17 For all subsequent analyses, summed data measures that comprise total additive scores of measures collected at waves 2-7, ages 14-21) are used. Note that the empathy measures were introduced at wave 7 only. A logged assault frequency variable is used because it accounts for a positively skewed distribution by performing a transformation of the data towards a more normal distribution, making it more suitable for analysis. This is particularly relevant for the assault variable because there are many zeros inherent in the data (i.e. there are many participants that report no assault).
significant predictor ($\beta = -0.062, p = 0.280$). Model II includes moral rules which increases the explained variance to 34%; guilt is a significant predictor ($\beta = -0.357, p < 0.001$); however, shame, as with model I, is not a significant predictor ($\beta = -0.026, p = 0.645$), and moral rules is a significant predictor ($\beta = -0.238, p < 0.001$).

This finding provides support for the hypotheses of the current study which state that the strength of the relationship between shame and violence is moderate compared to the strength of the relationship between guilt and violence. A significant correlation between shame and assault does exist; this indicates that the specific role of shame may not be as straightforward as the role of guilt. It is important to note that although shame is not a significant predictor of violence on the quantitative scales, in contrast, shame is relevant for almost all violent subsample participants in their qualitative recollections of real-life acts of violence (see [author(s)]). When moral rules are added to the regression model (model 2), the explained variance increases slightly; therefore moral emotion should be explored in association with moral rules (as outlined in the theoretical framework of the current study). This relationship is tested further in the following section by modelling an interaction effect between moral emotion and moral rules.

**Do moral emotions, moral rules, and their interaction, predict involvement in violence for the full sample?**

The current study hypothesises that moral emotions are of crucial importance, but only when combined with other relevant factors (Lapsley & Carlo, 2014), such as moral rules (and the setting, which is explored elsewhere (Wikstrom et al, 2012). An interaction term offers an exploration of whether the effect of an explanatory variable

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18 Since the correlation between shame and guilt is reasonably high ($r=0.67$), multicollinearity diagnostics were carried out in SPSS to explore whether this was the reason that shame is not a significant predictor. The tolerance values are above .1 (.3) and the variance inflation factors are below 10 (3.0), therefore multicollinearity does not pose a problem for this analysis.
(moral emotion) on the outcome variable of violence is contingent upon another explanatory variable (moral rules). This method allows testing of whether moral emotion is only relevant to violence when moral rules are specifically weak. If this is the case, it raises clear lines of enquiry and focus for how and where to target prevention. Very little is known about whether the criminogenic effect of moral emotion is dependent on moral rules; do strong moral rules protect from the criminogenic effect of weak moral emotion? Are young people with weak moral rules more susceptible to the criminogenic effect of moral emotion?

OLS regression method for testing the interaction is deemed to be the most suitable and appropriate for data of this kind (Svensson & Oberwittler, 2010). However, use of interaction terms does not come without its problems (Hirtenlehner, Pauwels, Maesko, 2015; Svensson & Oberwittler, 2010). First, the skewed distribution of the outcome variable of self-reported violence violates key assumptions (multivariate normal distribution and homoscedasticity) of linear regression analyses. It has been proposed that spurious interaction effects may arise due to the distribution of self-reported violence (Osgood, Finken, McMorris, 2002). However, OLS regression is particularly robust to this (Hirtenlehner, Pauwels, Maesko, 2015) and due to the non-normal distribution of self-reported violence, robust standard errors have been calculated (Hannon & Knapp, 2003). When standard errors are re-estimated to be heteroscedasticity-consistent using the robust technique, both moral emotion and moral rules have a significance value below .05. In addition, quadratic terms (that account for the non-linear relationship of moral emotion and moral rules to self-reported violence) are calculated to enable estimation of an interaction effect that is not obscured. The dependent variable is also not log transformed to prevent further difficulties in identifying an interaction effect (McClelland & Judd, 1993). Finally, the predictor
variables have been mean-centred to allow for more meaningful interpretation of the regression analyses.

For the full PADS+ sample, regression model I analyses moral emotion ($\beta = -0.114$, $p = .042$) and moral rules ($\beta = -.230$, $p < .001$) as predictors of assault frequency (unlogged) and explains 11% of the variance (see table 3). Model II gives a higher explained variance of 19% and incorporates the interaction term ($\beta = .313$, $p < .001$), as well as moral emotion ($\beta = -.043$, $p = .426$) and moral rules ($\beta = -.165$, $p < .001$). This increase in explained variance can be attributed to the interaction of moral rules with moral emotion. Of key relevance, when the interaction term is added, moral emotion is no longer a significant predictor of assault; this indicates that it is the interaction between moral emotion and moral rules that is the fundamental predictor of violence.

**Conclusion and discussion**

The current study makes three overarching conclusions; violent offenders report a weak ability to exercise empathy and a weak ability to anticipate shame and guilt, weak empathy is related to a reduced ability to experience shame and guilt, and weak moral emotion makes a significant contribution to predicting violence, specifically when moral rules are also weak (this is a key finding which has not been explored to date).

This research develops explanations that have previously received little attention in relation to moral emotion. It develops a detailed explanation of the role of moral emotion in crime involvement by first exploring the role of ability to anticipate empathy in the possibility to feel shame and guilt, and second, by exploring the contribution of

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19 The results are in the same direction when the model is run using all crime as an outcome variable.
shame and guilt to the strength of overall individual morality, which ultimately plays a role in whether crime is perceived for action.

While many theories acknowledge the role of emotions and moral reasoning, SAT serves to be the most useful in aiding understanding of the implications of the inter-relationships between empathy, moral emotion, moral reasoning, and its impact upon offending decisions. In summary, the primary theoretical proposition of the current study is that weak moral emotion demonstrates a low intensity to which individuals subscribe to a moral rule (to lead to weak overall morality), and weak morality primarily determines whether crime is perceived as a viable and morally acceptable action alternative; this proposition is supported and evidenced using empirical data. A comparison of the violent offender subsample and the rest of the sample reveal that violent offenders report weaker general empathy, shame, guilt and moral rules. Regression analyses provide evidence that empathy can predict shame and guilt and guilt and moral rules can predict violence.

The interaction effect between moral rules and moral emotion is one of the key findings of the current study and has rarely been analysed or presented in other existing criminological research. The interaction finding sheds light on the nuanced processes at play during crime decision-making and emphasises the importance of the role that moral emotion plays in weakening individual morality, and its association to crime involvement. Crucially, it emphasises this to be specifically important for those with weak moral rules. In conclusion, moral emotion has a stronger effect on violence for young people with weak corresponding weak moral rules; moral emotion alone does not predict crime but rather, it makes an essential contribution to overall morality, which is a key predictor of crime frequency. The results support the key hypotheses of the study.
and provide a firm context for the importance of further and future work to explore the role of moral emotion in violence.

There are numerous strengths to the current study. Situational action theory, combined with robust empirical data, achieves an explanatory line of enquiry (and the identification of the mechanisms at play), as opposed to a less fruitful enquiry of basic associations. Use of self-reported data enables and captures a more valid picture of real-life crime in comparison to incomplete officially recorded police data due to the well-documented existence of a hidden or dark figure in police-recorded statistics (see Wikstrom 1985). However, it should be noted that self-report data may not be entirely bullet-proof; given the constructs of interest in the current study, allowance should be made for the possibility that young people who report low levels of guilt and shame may be more willing to self-report crime. A further strength to the current study is that PADS+ data is highly reliable (Wikstrom et al, 2012) and this is particularly important for generalisability of these study findings to the population. Although the questionnaire scales constitute items which refer to hypothetical situations, and therefore measure a general ability to exercise empathy, and a general ability to anticipate shame and guilt; further research indicates that in-depth interview data, which provides more detail and more specificity, confirms the importance of the situational application of empathy, shame, and guilt in specific real-life violent events (see [author(s)]).

There are numerous limitations to the current study. First, the study does not take into account the role of wider societal and cultural factors such as cultural practices and norms and religiosity (all of which are likely to play a role in the development of ________________

20 In order to explore this possibility, PADS+ self-reported data has been compared to police recorded official data and reveals that young people in the study self-report the crimes that involved police contact as well as many crimes that did not (see Wikstrom et al 2012).
morality and the settings that people partake in). Second, as there are no control variables used in the analyses in the current study, the generalisability of the findings may be limited. Third, since the violent subsample includes high-frequency crime offenders, the specific subsample comparison analyses may be more applicable to serious and persistent offenders as opposed to individuals that commit minor acts of violence.

Another primary limitation involves the issue of establishing causation between moral emotion and violence. Although causation, i.e. the role that a change in moral emotion can play in a change in violent behaviour, can only be tested using real-life experiments (involving manipulating people’s emotions and environments), this is unethical, impractical, and likely unfeasible. However, the current study offers a suitable alternative, which involves the development of testable implications and assumptions and testing of them, and therefore enables reasonably firm conclusions to be made regarding the processes and mechanisms by which violence occurs.

Future research can accommodate plausible mechanisms that explain a link between morality and crime by incorporating the role of the setting, the importance of which is evidenced in numerous studies that have tested the situational action theory framework (Pauwels, Svensson, & Hirtenlenher, 2018). Although the current study focuses its research efforts on exploration of the explanations and related mechanisms of why crime (and specifically violence) occur, the ultimate hope for crime research is that it will be channelled towards and translated to prevention efforts. This is imperative in order to investigate the processes by which persistent violent offenders continue to commit a large volume of violent crime, which constitutes a large proportion of total crime. In order to reduce the possibility of crime being seen as an action alternative, moral emotion development in childhood and adolescence is instrumental.


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http://doi.org/10.1177/1477370811416415
Figure 1: Conceptual model of the relationships between empathy, shame and guilt, and the decision to engage in crime
### Tables

<table>
<thead>
<tr>
<th></th>
<th>Violent subsample</th>
<th>Rest of the sample</th>
<th>Difference between means</th>
<th>T-test significance</th>
<th>Eta² x 100</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General empathy</strong> (total score 51)</td>
<td>29.4</td>
<td>33.8</td>
<td>-4.4</td>
<td>.000</td>
<td>3</td>
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<td><strong>Shame</strong> (total score 12)</td>
<td>8.7</td>
<td>10.8</td>
<td>-2.1</td>
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<td>6</td>
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<tr>
<td><strong>Guilt</strong> (total score 12)</td>
<td>7.3</td>
<td>9.7</td>
<td>-2.4</td>
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<td>8</td>
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<tr>
<td><strong>Moral rules</strong> (total score 48)</td>
<td>25.5</td>
<td>30.1</td>
<td>-4.6</td>
<td>.000</td>
<td>3</td>
</tr>
<tr>
<td><strong>Assault frequency (unlogged)</strong></td>
<td>50.7</td>
<td>3.8</td>
<td>46.9</td>
<td>.000</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total crime frequency</strong></td>
<td>192.3</td>
<td>14.5</td>
<td>177.8</td>
<td>.000</td>
<td>18</td>
</tr>
</tbody>
</table>

**Table 1:** Comparison of mean scores for the violent subsample (N=48) and the rest of the sample (N=607): empathy, shame, guilt, moral rules, and crime

-Eta² x 100 is reported to provide the percentage of variance explained for ease of interpretation.

<table>
<thead>
<tr>
<th></th>
<th>R Square</th>
<th>B</th>
<th>Beta</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model I</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.31</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Guilt</strong></td>
<td></td>
<td>-.020</td>
<td>-.507</td>
<td>.000</td>
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<tr>
<td><strong>Shame</strong></td>
<td></td>
<td>-.002</td>
<td>-.062</td>
<td>.280</td>
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<tr>
<td><strong>Model II</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Guilt</strong></td>
<td></td>
<td>-.014</td>
<td>-.357</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Shame</strong></td>
<td></td>
<td>-.001</td>
<td>-.026</td>
<td>.645</td>
</tr>
<tr>
<td><strong>Moral rules</strong></td>
<td></td>
<td>-.003</td>
<td>-.238</td>
<td>.000</td>
</tr>
</tbody>
</table>

**Table 2:** Regression predicting assault frequency (logged) by shame and guilt (model I) and shame, guilt, and moral rules (model II) (N=655)
Table 3: Regression predicting assault frequency (unlogged) by moral emotion and moral rules (model I) and moral emotion, moral rules, and their interaction (model II) (N=655)

<table>
<thead>
<tr>
<th></th>
<th>R Square</th>
<th>B</th>
<th>Beta</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model I</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.11</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Moral emotion</td>
<td>-.131</td>
<td>-.114</td>
<td>.042</td>
<td></td>
</tr>
<tr>
<td>Moral rules</td>
<td>-.183</td>
<td>-.230</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td><strong>Model II</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moral emotion</td>
<td>-.049</td>
<td>-.043</td>
<td>.426</td>
<td></td>
</tr>
<tr>
<td>Moral rules</td>
<td>-.131</td>
<td>-.165</td>
<td>.002</td>
<td></td>
</tr>
<tr>
<td>Moral emotion*moral rules (interaction)</td>
<td>1.19</td>
<td>.313</td>
<td>.000</td>
<td></td>
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</table>