'You can tell a victim by the tilt of her head as she walks': psychopathic personality and social–emotional processing

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Ethical standards

Nathan Brooks has declared no conflicts of interest; Katarina Fritzon has declared no

conflicts of interest; Bruce Watt has declared no conflicts of interest.

Ethical approval

All procedures performed in studies involving human participants were in accordance

with the ethical standards of the institutional and/or national research committee and

with the 1964 Helsinki declaration and its later amendments or comparable ethical

standards.

Informed consent

Informed consent was obtained from all individual participants included in the study.

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Abstract

Much contention and speculation exists regarding the emotional and social skills associated with psychopathic personality, including the idea of a predatory perception. Perpetrators such as Theodore Bundy have made claims to determining victim vulnerability by simple body cues, however, support for these assertions has been limited. The current study examined the relationship between psychopathic personality and social and emotional processing abilities. The study utilised a quasi-experimental design along with self-report measures to examine psychopathy in a community sample (N=115) of males and females. To examine psychopathy and social information processing, a series of Mixed Design ANOVA's were conducted to examine the effect of psychopathy on character recall. Psychopathy found to significantly predict recall of the unsuccessful character, however, did not predict recall of character gender or emotion. Two hierarchical regressions analyses were conducted to examine emotional intelligence and empathy. Psychopathy was found to be a significant negative predictor of empathy, however, did not significantly predict emotional intelligence. Implications for the current study lie within advancing the empirical understanding on psychopathic personality and victim vulnerability, while also addressing the ability of psychopathic individuals to relate to others and foster a sense of intimacy and connection.

"You can tell a victim by the tilt of her head as she walks": Psychopathic personality and social-emotional processing.

Theodore Bundy is notoriously renowned for many things, including the assertion "that he could tell a victim by the way she walked down the street, the tilt of her head, the manner in which she carried herself". During an interview with Professor Ronald Holmes, Bundy offered a glimpse into his process of victim selection (Holmes & Holmes, 2010, p. 221). To believe that any perpetrator could be so proficient and capable of determining vulnerability by just a glance can only be considered disconcerting. While many psychiatric diagnoses have been provided to explain Bundy's behaviour, an overarching personality style resembling psychopathic personality is evident (Meloy & Shiva, 2007). Psychopathy is associated with grandiosity, manipulation, callous unemotional traits, feigning of emotions, and the appearance of a veneer of stability, normality and friendliness (Hare, 2003; Hickey, 2010). Individuals with psychopathy often see the world as being comprised of "givers and takers" and "predators and prey" believing that "it would be very foolish not to exploit the weaknesses of others" (Hare, 1999, p. 49); considerably similar views to those expressed by Bundy (Holmes & Holmes, 2010; Michaud & Aynesworth, 2000).

While an extensive body of research has been conducted on psychopathy in criminal settings, case studies have identified psychopathic traits in businessmen, military personnel, doctors, scientists, and psychiatrists (Babiak, Neumann, & Hare, 2010; Babiak & Hare, 2006; Cleckley, 1976; Dutton, 2012; Falkenbach, McKinley, & Larson, 2017). It appears that some people with psychopathic traits evade police detection, avoid incarceration, and manage to function successfully in the community (Babiak & Hare, 2006; Dutton, 2012; Hall & Benning, 2006). This may be partially

explained by psychopathy being associated with a greater ability to lie and tell lies pertaining to dominance, sincerity and sexual intentions (Jonason, Lyons, Baughman, & Vernon, 2014). The ability to lie, coupled with a tendency to manipulate is considered a core feature of psychopathic personality.

Manipulation or Emotional Intelligence?

Effective manipulation often requires an awareness of another's values or weaknesses, commonly exploiting these for personal gain. Many of the skills used in manipulation require the ability to understand another's emotional state or perspective. Emotional intelligence refers to the abilities and skills needed to manage both the intrapersonal and interpersonal components of emotional and social interactions (Goleman, 1995). Despite emotional intelligence being an important attribute for interpersonal interactions (Baron-Cohen, 2011), it has been postulated that a "darker side" of social and emotional intelligence exits in which personality constructs such as psychopathy, machiavellianism and narcissism exploit social and emotional skills for self-gratifying advances and pursuits (Grieve & Panebianco, 2013; Nagler, Reiter, Furtner, & Rauthmann, 2014; Simon, 2010).

The relationship between the dark triad personalities (psychopathy, narcissism and machiavellianism) and social and emotional intelligence was examined in a large sample of 594 community participants (Nagler et al., 2014). The study found that narcissism had a significant positive relationship with socio-emotional expressivity and control, and a negative relationship with social and emotional sensitivity (subscales of the Social Skills Inventory; Riggio & Carney, 2003). Psychopathy was found to have no relationship with socio-emotional expressivity, but a significant positive relationship with socio-emotional control, and significant negative relationship with socio-emotional sensitivity. Machiavellianism had a positive

relationship with emotional control and a negative relationship with the other subscales of the SSI. All three of the dark triad personality types were found to have a significant relationship with emotional manipulation. Moreover, psychopathy was found to significantly moderate the relationship between emotional control and emotional manipulation. The results of the study provided evidence that psychopathy and narcissism were related to the use of social and emotional intelligence for emotional manipulation (Nagler et al., 2014).

Grieve and Panebianco (2013) investigated emotional manipulation and social and emotional intelligence in males and females. In a study of 243 participants from an Australian university, higher levels of social information processing skills, emotional intelligence, indirect aggression and self-serving cognitive distortions were found to be significant predictors of emotional manipulation by males (Grieve & Panebianco, 2013). Interestingly, although the authors examined psychopathy, this was not found to be a predictor of emotional manipulation by males. For females, a younger age, indirect aggression, traits of primary psychopathy, higher levels of emotional intelligence and lower levels of social awareness were found to significantly predict emotional manipulation. The authors concluded that although there were overlapping predictors of emotional manipulation (indirect aggression and emotional intelligence) between the two genders, emotional manipulation differed as a function of gender, with primary psychopathy (interpersonal traits of psychopathy, rather than behavioural) a greater predictive factor of emotional manipulation by females rather than males. The findings were partially consistent with Ali, Amorim, and Chamorro-Premuzic (2009) who found no association between primary psychopathy and emotional intelligence, but a significant negative relationship between secondary psychopathy and emotional intelligence.

The capacity of those with psychopathic characteristics to manipulate and deceive others has significant implications for the criminal justice system and broader community. Porter, ten Brinke, and Wilson (2009) investigated psychopathic traits and the likelihood of being granted conditional release from custody. The authors reviewed the offence history and correctional documentation of 310 male offenders from a Canadian medium security prison. Psychopathy was analysed using the PCL-R to rate offenders' levels of psychopathy. From the sample, 90 offenders were classified as psychopathic (score of 30 or over on the PCL-R), of which 36 were rapists, seven child molesters, 15 a mixed type of rapist and molester, and 32 were non-sex offenders. The findings of the analysis revealed that psychopathy was strongly related to the perpetration of both violent and non-violent offences; however, no significant difference was found for sexual offences. Offenders with high levels of psychopathic traits were found to have a higher rate of non-sexual recidivism, but not sexual recidivism. Despite the findings suggesting that psychopathic offenders were of greater likelihood to re-offend for non-sexual crimes, they were two and a half times more likely than non-psychopathic offenders to be successful in their application for conditional release. The results of this study have important implications for the criminal justice system and parole boards, in particular considering the extensive information parole boards receive, or should receive, regarding an offender (Häkkänen-Nyholm & Hare, 2009). The findings suggest that despite a greater risk of recidivism, individuals with high levels of psychopathic traits are capable of presenting an impression that conveys a change in behaviour and a reduction in risk to the community.

Similar findings were reported by Häkkänen-Nyholm and Hare (2009) in an analysis of 546 Finnish homicide offenders (460 males and 86 females). The study

investigated the effects that psychopathy had in relation to post-homicidal offence behaviour. The authors utilised a similar methodology to that conducted by Porter et al. (2009), reviewing case files on offenders and conducting retrospective PCL-R assessments to evaluate psychopathy. The study examined self-reported reasons for committing the killing, post offence behaviour, outcomes from lower level court decisions, and the final sentencing verdicts. Based on scores of 30 and above on the PCL-R, 18% of the sample (19.4% of male offenders and 10.5% of female offenders) were considered to be psychopathic. High scores on the PCL-R were found to be associated with leaving the scene of the killing, denying the charges, being convicted of a less serious crime and receiving final sentencing in a higher level of court. Offenders with high levels of psychopathic traits were prone to deny responsibility for their actions and place blame on external factors, rather than experiencing remorse. Offenders high on psychopathic traits were also more likely to be granted leave to appeal the decision, only granted in the Finnish justice system if the sentence is considered to be too lenient or too severe. The authors concluded that the role of psychopathy and impression management is vital to the investigation and prosecution of crime, requiring greater understanding through research and by forensic psychologists and law enforcement personnel (Häkkänen-Nyholm & Hare, 2009). The process by which offenders manage their image and adjust this to the criminal justice system for their own personal benefit is poorly understood and in need of greater appreciation and research (Häkkänen-Nyholm & Hare, 2009).

Predator and Prey

The relationship between psychopathy and emotional and social processing may provide and explanation as to the ability of psychopathic individuals to exploit vulnerabilities and weaknesses in others. Wilson, Demetrioff, and Porter (2008)

investigated the ability of individuals with psychopathic traits to assess for vulnerability and success in others, specifically the ability to recall biographical details of characters varying in success and emotional characteristics. The research consisted of 44 participants from a Canadian Undergraduate sample. A combination of facial expressions conveying either a happy or sad emotional state, along with specific character details, were used by the authors to create four separate character conditions; happy and successful, happy and unsuccessful, sad and successful, and, sad and unsuccessful. To investigate the relationship between psychopathy and the four character conditions, Psychopathy scores were median split into high and low psychopathy to examine the relationship between the construct and the four character conditions.

The findings suggested a similar ability between both the high and low psychopathy groups for recognition of character faces (72% vs. 74%), as well as happy and successful males (90% vs. 95%). The high psychopathy group was found to have a significantly lower recognition of sad and successful females and happy and successful females in comparison to the low psychopathy group. The most notable difference between high and low psychopathy, however, was found for the sad and unsuccessful female characters. Those in the high psychopathy group had a near perfect recall of this character type (90%) compared to the low psychopathy group (68%), suggesting an unconscious predisposition towards recognizing the most vulnerable character/person (Wilson et al., 2008). The findings of the study provided a preliminary understanding of the relationship between psychopathy and social information processing, however, due to the small student sample further exploration in conjunction with discriminant measures to support construct validity would assist in strengthening findings.

Additional research examining psychopathy and social information processing investigated whether higher levels of psychopathic traits were associated with accurate victim selection (Wheeler, Book and Costello, 2009). The authors contended that due to people with psychopathic characteristics readily victimising others, psychopathic individuals should possess the skills to perceive cues of vulnerability, such as basic emotional states in others (Wheeler et al., 2009). The researchers employed a methodology that video taped participants walking down a hallway, then asked each participant through a demographic questionnaire whether they had previously been victimized and on how many occasions. Victimisation was defined as being equal to or greater than bullying behaviour (Wheeler et al., 2009). A total of 12 video clips (eight females and four males) were used for participants to determine vulnerability, and of these, four women and two men identified past victimisation. Psychopathy was assessed by the SPR-III (Paulhus et al., in press). Forty-seven male students then proceeded to rate targets in the video clips based on their perceived vulnerability to victimisation. The study found a significant correlation between subjects' body language and previous victimisation, suggesting that targets who reported past victimisation had noticeable differences in their walking gait. A significant positive relationship was found between total psychopathy scores and accuracy at identifying victims. Notably, a significant positive relationship was observed between factor one of the SRP-III and accurate identification of victims, however, a non-significant relationship between factor two of the SRP-III and victim identification was found. These findings were consistent with Wilson et al. (2008) who found participants with higher levels of psychopathy had a greater recall for sad unsuccessful female characters.

Despite a number of findings suggesting that individuals with psychopathic characteristics have strong impression management skills, are manipulative, deceptive, and capable of detecting and exploiting vulnerability, some researchers disagree over the ability of individuals with psychopathy to process and understand emotions (Wheeler et al., 2009). For example, in a study that investigated the relationship between psychopathy and recognition of facial affect, psychopathic traits were negatively related to affect recognition, most notably for expressions of sadness (Hastings, Tangney, & Stuewig, 2008). A similar finding was noted by Long and Titone (2007), with participants who scored higher on a self-report measure of psychopathy less efficient at processing the negative emotional states of sadness and fear in comparison to other emotional states. However, Glass and Newman (2006) and Book, Quinsey, and Langford (2007) both found results suggesting that people with psychopathic traits were able to recognise facial expressions of emotion and did not have deficits in their ability to recognise facial expressions. In a study conducted by Blair, Jones, Clark, and Smith (1997), participants with high levels of psychopathic traits were found to have reduced arousal responses to distress cues. However, participants with higher levels of psychopathy were not found to have a complete deficit in perceiving distress cues. The authors concluded that this finding was due to a deficient emotional response to distress (lower physiological reaction) in people with psychopathic traits rather than a deficiency in the perception of distress (Blair et al., 1997).

Possible explanations for the discrepancies in findings pertaining to psychopathic traits and emotional recognition may be accounted for by the varied methodologies employed by researchers. Differentiating psychopathy based on factor one and factor two traits may lead to different findings across studies. Book et al.

(2007) found that factor one traits were positively related to accurate identification of emotional intensity judgments. Similarly, in another study, total psychopathy scores on the PCL-R were found to be negativity related to the accurate identification of facial expressions of emotions, but, factor one scores were positively related to accuracy in identifying facial emotions (Habel, Kühn, Salloum, Devos, & Schneider, 2002). This suggests that individuals with psychopathic characteristics may in fact have intact emotional recognition capabilities, however, this may vary as a function of the clustering of psychopathic traits and/or the specific type or subtype of psychopathy.

Directions of the Current Study

The present research aimed to provide further clarification pertaining to psychopathy and emotional and social capabilities. The study sought to investigate the relationship between psychopathic personality and ability to detect vulnerability and submissiveness in others. The study aimed to explore whether Theodore Bundy's assertions around victim vulnerabilities indicated that psychopathic traits are associated with a predatory perception and enhanced social and emotional skills. The research employed a methodology similar to Wilson et al. (2008) to examine whether psychopathy was associated with greater recognition and recall of sad and unsuccessful females based on viewing images of characters. It was hypothesised that participants with higher levels of psychopathic personality would have greater recognition and recall of sad and unsuccessful females compared to subjects with lower levels of psychopathy. To further support these findings additional construct were examined, specifically empathy, emotional intelligence and negative emotionality. The use of these factors provided validity for the psychopathy construct as detailed by Hare (2003) and Cleckley's (1976) descriptions of psychopathic

personality; a personality disposition characterised by marked deficits in empathy. The incorporation of these additional constructs also allowed for further investigation of the emotional processing abilities associated with psychopathy. This included analysing the relationship between psychopathy and emotional intelligence, seeking to determine whether a positive relationship existed, suggestive of greater emotional and social processing, along with a "darker side" of emotional intelligence. The Psychopathic Personality Inventory-Revised (Lilienfeld & Widows, 2005) was used to assess psychopathy and has been cited as one of the leading assessment tools (Skeem et al., 2011) in examining criminal and noncriminal psychopathy. The PPI-R has also been found to share empirical overlap with the PCL-R and the triarchic theory of psychopathy (Lilienfeld & Widows, 2005; Polaschek, 2015; Skeem et al., 2011).

Method

Participants and Procedure

A total of 122 participants were recruited for the study. Due to missing data, seven participants were excluded from the sample, leaving a final sample size of 115 participants. The sample consisted of 64 females ($M_{age} = 38.02$; $SD = 16.77$) and 48 males ($M_{age} = 55.06$; $SD = 16.52$) with an age range from 18 to 75 years of age ($M_{age} = 36.58$; $SD = 16.67$). Participants most commonly reported identifying with a Christian religion and the most frequent occupation for the sample was professionals. The most common income reported by the sample was $500 to $599 and the most frequent form of education was a TAFE Diploma/and or Certificate.

Approximately 19.10% of the sample reported having previously been arrested. Nine respondents (7.80%) reported having a criminal record and six

participants (5.20%) reported either currently or previously being on a criminal justice order. Three respondents reported having been charged for drug offences, two reported a violent offence and one reported a motor vehicle offence.

The sample was recruited from two shopping centres in South East Queensland over a two-week period. All participants were required to be 18 years of age to participate in the study. To assist with the recruitment of participants, each participant received $20 as an incentive for participating in the research. Testing took place in the two shopping centres in an allocated stall space. The testing space comprised of a desk and three seats. All participants viewed the computer tasks on a 15-inch laptop computer screen. Computer tasks were developed through PowerPoint and included specified time intervals for slides.

The recall of character information computer task consisted of two components. The first part of the test contained eight images. Each image included a character in either a happy or sad emotional state and also included their name, occupation and a like and dislike. Each of the images was displayed for 30 seconds, with the trial taking approximately 240 seconds. The second part of the test was administered approximately sixty seconds afterwards. The second trial presented the image of the character, however, no information was displayed. The second part of the test consisted of 14 images, the original eight images from the first test and six distractor images. Participants were provided with up to 60 seconds to respond to each image and were able to proceed to the next image at a quicker rate if requested.

All procedures performed in studies involving human participants were in accordance with the ethical standards of institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments of comparable ethical standards. Informed consent was obtained from all individual

participants included in the study. Upon completion of the surveys, data was collected, entered and analysed using the computer program "Statistical Package for Social Science".

Materials

The study utilised a series of self-report measures and one computer task. The measures used in the study included; a demographic questionnaire, Psychopathic Personality Inventory-Revised (PPI-R; Lilienfeld, & Widows, 2005), Interpersonal Reactivity Index (IRI; Davis, 1980, 1983), Depression, Anxiety and Stress Scale-21 (DASS-21; Lovibond, & Lovibond, 1995), and Assessing Emotions Scale (AES; Schutte, Malouff, & Bhullar, 2009).

The computer tasks was comprised of images from the Pictures of Facial Affect series (POFA; Ekman & Friesen, 1976). POFA series consisted of 110 black and white images of six different facial emotional expressions. The six emotional expressions include: happiness, sadness, anger, surprise, disgust and fear. Each image was developed through actors receiving instructional training on which muscles to contract and which to relax to form a given facial expression (Ekman & Friesen, 1976). Based on hundreds of images, a sample of American college students were exposed to each image for approximately 10 seconds and required to identify each emotion portrayed in the image. Subsequently inter-rater reliability was developed for through observer ratings for each image to determine the percentage correct identification of each emotion. Ratings for images used ranged between 92% and 100%.

Character Information Computer Task. The recall of character information task consisted of two trials and was adapted from Wilson et al. (2008). The first trial contained eight images. Each image included a character in either a happy or sad

emotional state and also included their name, occupation and a like and dislike. Character names were selected from the top Australian baby names, obtained from www.babycenter.com.au/pregnancy/naming/top-baby-names-2011/. Occupations for the characters included, doctor, lawyer, shop assistant, cleaner, taxi driver, veterinarian, waiter, and accountant. Successful occupations were considered as being a doctor, accountant, lawyer and veterinarian. Unsuccessful occupations were being a taxi driver, cleaner, shop assistant and a waiter. Occupations were created from a list titled 'Australia's Most Trusted Professions', obtained from www.readersdigest.com.au/australias-most-trusted-professionals-2011. Character likes included, painting, smoking, running, watching television, documentaries, dancing, surfing, and skydiving. Character dislikes included, cooking, video games, alcohol, vegetables, coffee, cats, going to movies, and exercise. Each image was displayed for 30 seconds, with the trial taking approximately 240 seconds.

The second trial was administer approximately sixty seconds after the first trial. The second trial presented the image of the character, however, no information about the character was displayed. Participants were required to determine whether they recognised the character from the first trial and to recall any of the information about that character. This trial included a total of 14 images, the original eight images from first trial and six distractor images. The distractor images were all of a neutral facial expression. Participants were provided with up to 60 seconds to respond to each image, however, participants were able to proceed to the next image at a quicker rate if requested. Character recall was scored based on the number of correct character details the participant was able to recall. Character recall scores ranged from *0* to *4* for each of the eight characters.

The Psychopathic Personality Inventory-Revised (PPI-R; Lilienfeld & Widows, 2005). The Psychopathic Personality Inventory was originally developed by Lilienfeld and Andrews (1996) and revised by Lilienfeld and Widows (2005). The PPI-R is comprised of 154 self-report items designed to measure the construct of psychopathy. Respondent rate each on a four-point scale ranging from: *false* (1), *mostly false*, *mostly true* and *true* (4). The total score of the PPI-R is calculated through summing the total scores of the eight content scales. In addition to the total score, the eight content scales form three separate factors; self-centered impulsivity, fearless dominance and coldheartedness. The PPI-R demonstrates good internal consistency with reliability for the PPI-R total scores (.86 to .93) as well as content scale scores all ranging above .70 (Lilienfeld & Widows, 2005). Construct validity has been demonstrated for the PPI with convergent and discriminant validity found between the Antisocial Personality Disorder Scale, CPI Socialization Scale, and MMPI-2 Antisocial Practices Content (Lilienfeld & Andrews, 1996; Lilienfeld & Widows, 2005).

The Interpersonal Reactivity Index (IRI). The IRI is a 28 item self-report instrument designed to measure empathy (Davis, 1980, 1983). The measure consists of four seven items subscales, which include: perspective taking, empathic concern, personal distress and fantasy. Respondents are required to rate items on a five-point scale ranging from, *does not describe me* (0) to *describe me very well* (4). The IRI demonstrates adequate reliability through internal consistency, with Crohnbach's alpha coefficients ranging from .70 to .78 (Davis, 1994). Convergent validity has been established for the IRI with moderate correlations with the Interpersonal Emotional Intelligence Scale (.30; Charbonneau & Nicol, 2002). Discriminant

validity has also been demonstrated with the Self Report Psychopathy Scale-II (-.30; Zagon & Jackson, 1994).

Depression Anxiety and Stress Scale 21 (DASS-21). The DASS-21 is a short form self-report measure consisting of three scales designed to measure negative emotional states (Henry & Crawford, 2005; Lovibond & Lovibond, 1995). The measure is a screening instrument for the three states of depression, anxiety and stress. The DASS-21 has been found to be a reliable and valid psychometric instrument (Henry & Crawford, 2005). Internal consistency yields a Cronbach's alpha reliability coefficient of at least .93 for the total scale (Henry & Crawford). The measure has also been found to demonstrate strong discriminative and convergent validity with the Hospital Anxiety and Depression Scale and the Personal Disturbance Scale (Crawford & Henry, 2003).

The Assessing Emotions Scale (AES; Schutte et al., 2009). The AES was developed based on Salovey and Mayer's (1990) original model of emotional intelligence. The measures is comprised of 33 self-report items and is designed to assess the trait emotional intelligence. Respondents rated items on a five-point scale, ranging from *strongly disagree* (1) to *strongly agree* (5). The measure examines global emotional intelligence as well as comprising of four sub-scales. These include: perception of emotion, managing own emotions, managing others' emotions and utilization of emotion. The AES scale demonstrates a high level of reliability based on internal consistency (α= .90; Schutte et al., 1998), as well as good test retest reliability over a two period for total scores. The measure has been found to demonstrate convergent validity with the other measures of emotional intelligence (Schutte et al., 1998).

Results

An initial reliability analysis (inter-item consistency) was conducted to assess the reliability of the scales used in the study. Crohnbach's Alpha demonstrated adequate internal consistency for all measures used: PPI-R (α=.91), PDS (α=.81), IRI (α=.77), AES (α=.93), LC (α=.76), DASS (α=.93) and SRQ (α=.75), consistent with previous research.

Table 1, shows the mean values and 5% trimmed means for each of the continuous variables within the dataset. The PPI-R assessment instrument used in the research to examine psychopathy provided clinical cut off scores. The frequency analysis of the PPI-R revealed that 21 (18.3%) participants were found to have clinically elevated levels of psychopathy ($T \geq 65$), while 94 (81.7%) participants did not have clinically elevated traits. Participants with elevated levels of psychopathic traits were considered to score one and a half standard deviations above the mean score for the college/community normative data (Lilienfeld & Widows, 2005). An independent samples t-test was conducted to compare psychopathy scores for males and females. Males ($M = 313.20$, $SD = 34.41$) were found to have significantly higher psychopathy scores that females ($M = 279.77$, $SD = 35.57$), indicating a significant difference between gender and psychopathy, t (110) = -4.99, p<.001.

Table 1

Descriptive Statistics for the Continuous Variables in the Study

	Means	5% Trimmed Means	Standard Deviation	Minimum	Maximum
Age	36.58	35.63	16.67	18	75
PPI-R	294.72	294.06	38.45	413	212
IRI	62.95	63.13	12.35	34	96
AES	128.81	129.90	18.17	50	162

| DASS-21 | 13.61 | 12.53 | 11.22 | 0 | 57 |

Note. PPI-R = Psychopathic Personality Inventory-Revised; IRI = Interpersonal Reactivity Index; AES = Assessing Emotions Scale; = Depression, Anxiety and Stress Subscales-21.

Social Information Processing

To test the hypothesis pertaining to character recall and psychopathy, a 2x2x2x2 Mixed Design Factorial ANOVA was conducted to investigate the effects of psychopathy (high and low), success (successful and unsuccessful), gender (male and female) and emotion (happy and sad) on the dependent variable of character recall. Recall was measured based on the number of correct details that participants were able to recall pertaining to the character, these details were: name, occupation, likes and dislikes.

Examination of the within subject effects revealed a non significant main effect of emotion, $F(1, 113) = 2.11$, $p = .149$, $\eta^2 = .018$. A main effect was found for success, $F(1, 113) = 8.62$, $p = .004$, $\eta^2 = .071$, indicating a statistically significant difference between recall of successful (22.28%) and unsuccessful (26.92%) character information. A significant main effect of gender was found, $F(1, 113) = 12.68$, $p = .001$, $\eta^2 = .101$. This difference indicated greater recall was found for female (27.92%) characters compared to males (21.28%). A non significant main effect was found for the between subjects variable of psychopathy, $F(1, 113) = 1.43$, $p = .235$, $\eta^2 = .012$, indicating no difference between the high and low psychopathy groups for recall.

A significant success x psychopathy interaction was found, $F(1, 113) = 7.07$, $p = .009$, $\eta^2 = .059$. Figure 1 displays the estimated marginal means for the interaction between success and psychopathy. A significant success x gender interaction was also

found, $F(1, 113) = 55.79$, $p<.001$, $\eta^2 =.331$. Figure 2 displays the estimated marginal

means for the interaction between success and gender. The results revealed a

significant three way interaction between emotion x success x gender, $F(1, 113) =$

25.91, $p<.001$, $\eta^2 =.187$. Non-significant interactions were found in the analysis,

including emotion x psychopathy, $F(1, 113) = 2.11$, $p =.149$, $\eta^2 =.018$, gender x

psychopathy, $F(1, 113) = 0.62$, $p =.432$, $\eta^2 =.005$, emotion x success, $F(1, 113) =$

3.42, $p =.068$, $\eta^2 =.029$, and, emotion x gender, $F(1, 113) = 1.48$, $p = .226$, $\eta^2 =.013$.

Similar to the findings associated with recognition, three non significant three way

interactions were found. No significant interaction effect was observed for emotion x

gender x psychopathy, $F(1, 113) = 0.05$, $p =.945$, $\eta^2 =.000$, success x gender x

psychopathy, $F(1, 113) = 0.28$, $p =.868$, $\eta^2 =.00$, or, emotion x success x

psychopathy, $F(1, 113) = 0.78$, $p =.381$, $\eta^2 =.007$. A non-significant four way

interaction was also found between emotion x success x gender x psychopathy, $F(1,$

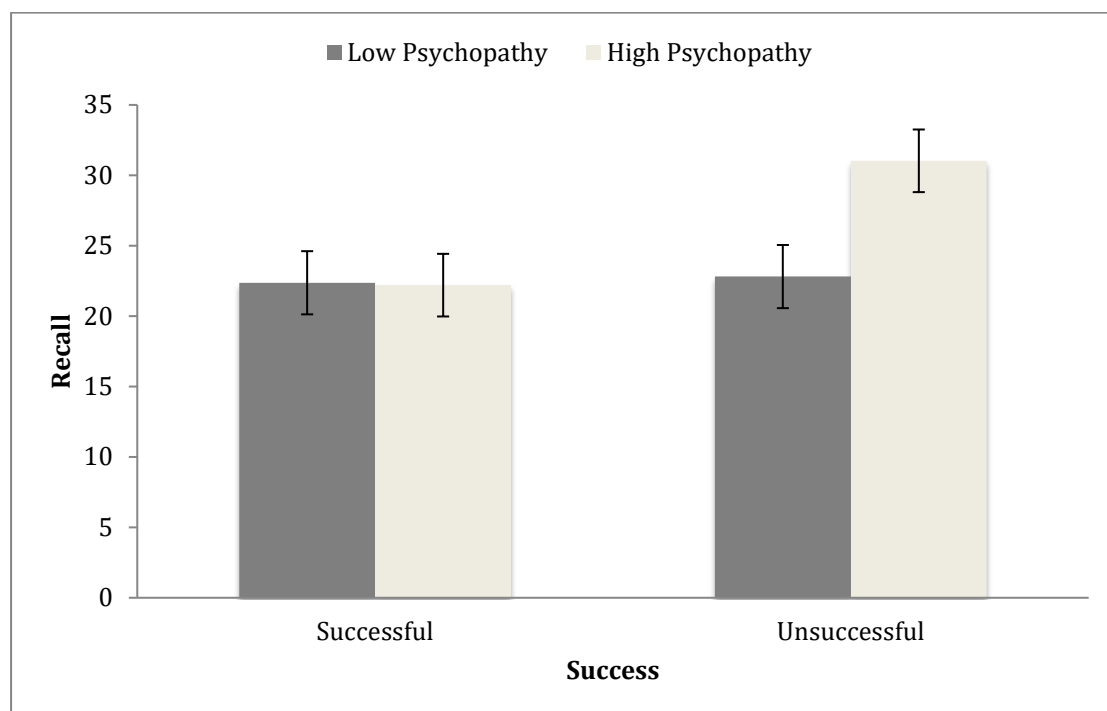$113) = 1.65$, $p =.202$, $\eta^2 =.014$.

Figure 1. The estimated marginal means for the interaction effect between psychopathy and success on correct character recall. Standard errors are represented in the figure by error bars.
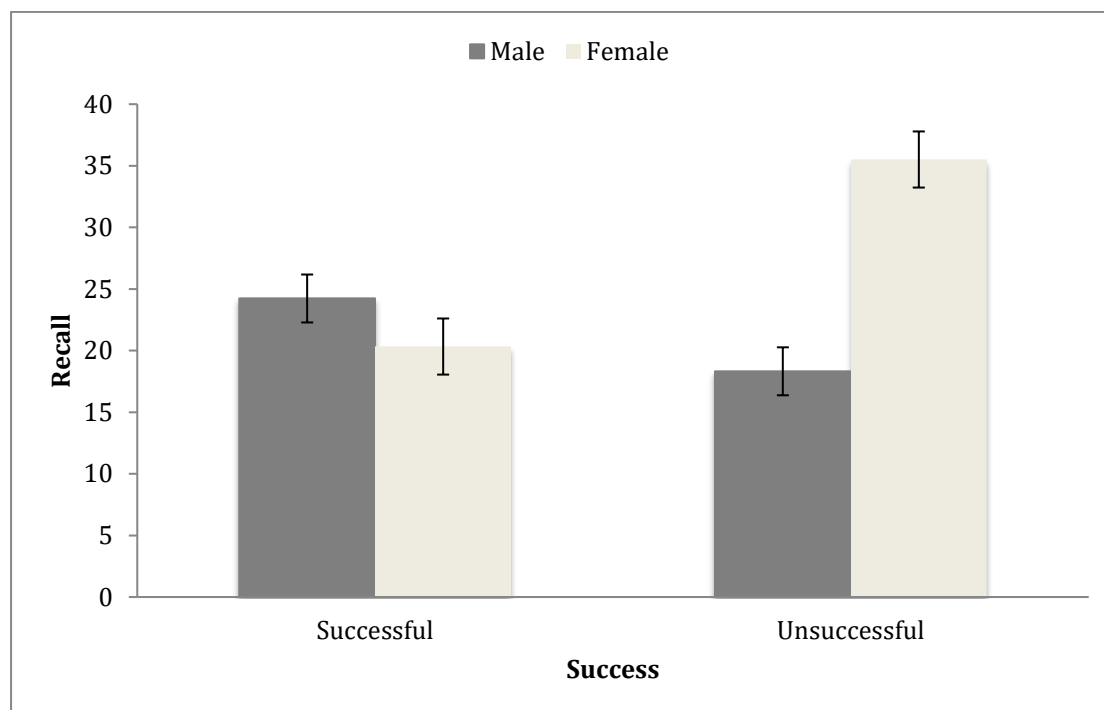

Figure 2. The estimated marginal means for the interaction effect between success and gender on correct character recall. Standard errors are represented in the figure by error bars.

Follow up analysis was conducted to investigate the significant interaction between psychopathy and success. The simple effects analysis revealed that for the successful characters, no significant difference was found between lower (22.37%) and higher levels of psychopathy (22.20%), *p*=.961. A significant difference was found for recall of the unsuccessful character, with participants with higher levels (31.03%) of psychopathy having greater recall than those with lower levels of psychopathy (22.81%), *p* =.041. A significant difference was also found for higher levels of psychopathy, with recall greater for unsuccessful characters (31.03%) compared to successful characters (22.20%), *p*<.001. Lower levels of psychopathy

were found to have no effect of recall for successful (22.37%) or unsuccessful characters (22.81%), *p* = 845.

Follow up simple effects were conducted to investigate the significant interaction between success and gender. The simple effects analysis revealed that no significant difference was found for recall of successful characters that were male and female, *p*=.115, however, a significant difference was found for unsuccessful characters, *p*<.001, with females (35.51%) recalled at a greater rate than males (18.33%). Males characters were significantly recalled at greater rates, *p*=.003, if they were successful (24.23%) compared to unsuccessful (18.33%), while female characters were recalled at a higher rate, *p*<.001, if they were unsuccessful (35.51%) compared to successful (20.33%).

Simple effects analysis was also conducted to follow the three-way interaction between success, gender and emotion. To analyse the three way interaction, two separate success x gender interactions were run separately for happy and sad emotions. For the happy state, no significant differences was found for recall based on success and gender, $F(1, 113) = 1.54$, *p*=.217. Figure 3 displays the estimated marginal means for the interaction between happy state, success and gender. A significant disordinal interaction was found for the sad state for recall based on success and gender, $F(1, 114) = 77.70$, *p*<.001. This suggested that the two-way interaction between gender and success was effected by emotional state. For the sad character, successful males (32.17%) were found to be recalled at higher rates than females (18.04%), and unsuccessful females (37.83%) were recalled at higher rates than unsuccessful males (15.00%). Sad male characters were recalled at greater rates if successful (32.17%), rather than unsuccessful (15.00%), while sad females characters were recalled more frequently if unsuccessful (37.83%) rather than

successful (18.04%). Figure 4 displays the estimated marginal means for the

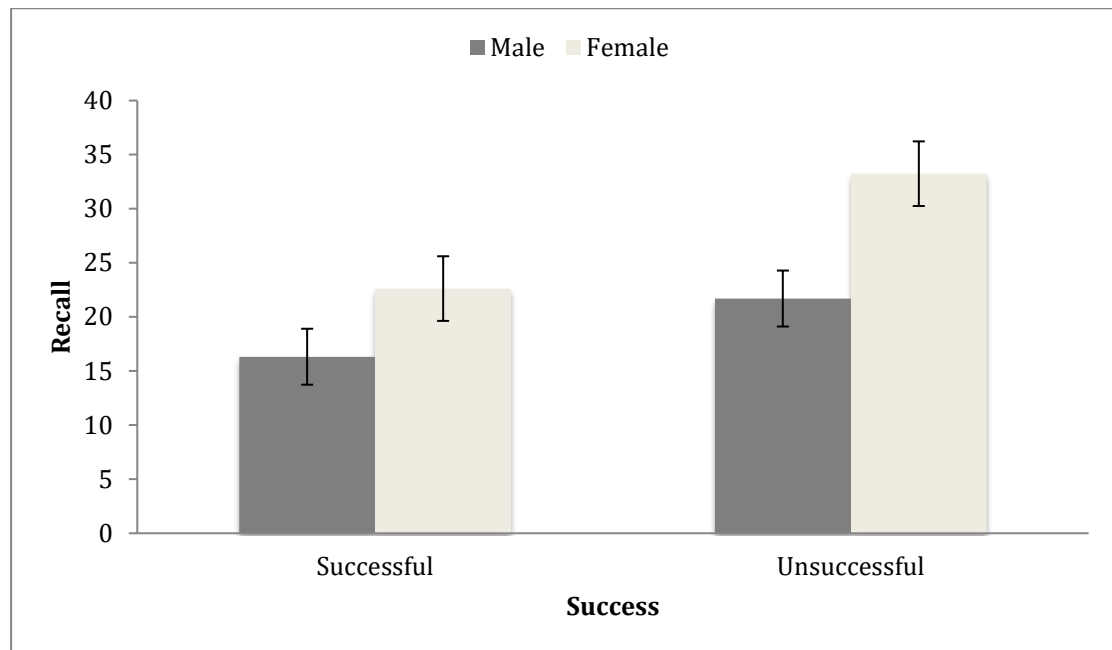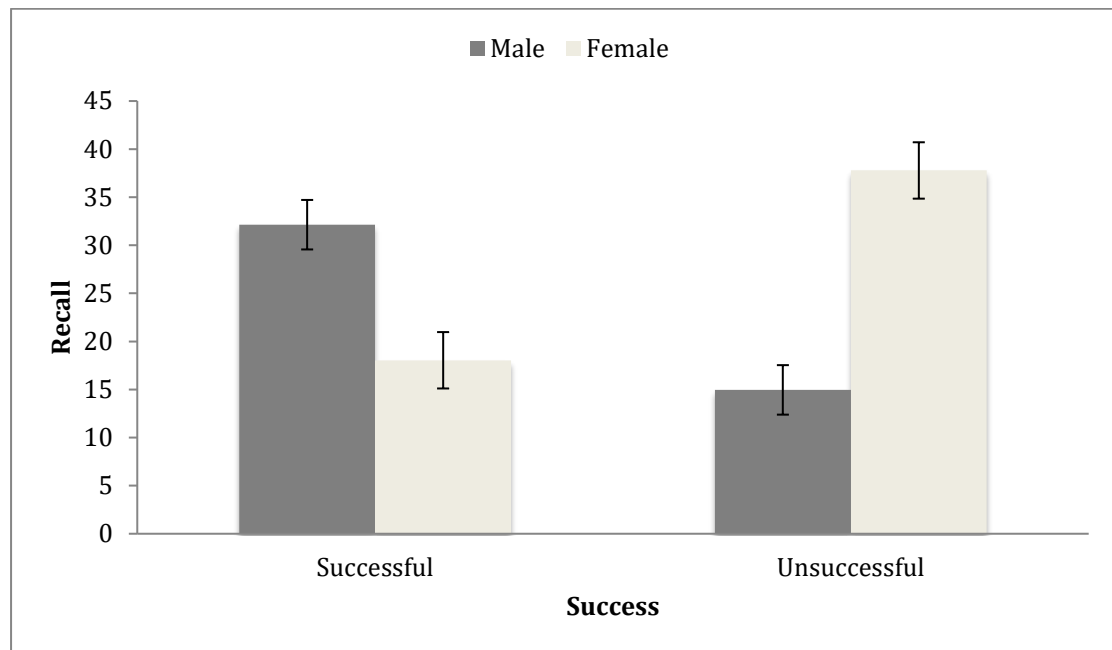interaction between sad state, success and gender.

Figure 3. The estimated marginal means for the interaction effect between happy

state, success, and gender on correct character recall. Standard errors are represented

in the figure by error bars.

Figure 4. The estimated marginal means for the interaction effect between sad state, success, and gender on correct character recall. Standard errors are represented in the figure by error bars.

Emotionality, Emotional Intelligence, and Empathy

To examine the relationship between psychopathy and emotional intelligence a Hierarchical Multiple Regression was employed. The multiple regression was entered in two steps in a hierarchical order. Gender and age were entered first to control for variance from these variables, followed by the IRI, PPI-R and DASS-21 at step two. At step one, gender and age were not found to be significant predictors of emotional intelligence, $R^2 = .01$, adjusted $R^2 = -.01$, $F_{change} (2,107) = 0.28$, $p =. 756$. At step two, significant additional variance (23.20%) was explained by the IRI, PPI-R and DASS-21, $R^2\Delta = .24$, $F\Delta (3, 104) = 10.55$, $p<.001$.

Table 2 shows the un-standardised regression coefficients (B), and the standardised regression coefficients (β) for the two step model of entry for the independent variables. At step 2 the IRI and DASS-21 were significant predictors of emotional intelligence. Gender, age, and the PPI-R and were not found to be significant predictors of emotional intelligence at the second step of the model. The positive Beta weights for the IRI and indicated that higher scores of empathy were significantly related to higher scores on emotional intelligence. The negative Beta weight found for the DASS-21 indicated that higher levels of negative emotionality were significantly associated with lower levels of emotional intelligence. Investigation of squared semi partial correlations showed that the IRI was strongest unique predictor of emotional intelligence, explaining 16.24% of the variance. The DASS-21 was found to uniquely explain 6.45% of the variance in emotional intelligence.

Table 2

The Regression Coefficients for the final step of the regression predicting emotional

intelligence

	Unstandardised Coefficients		Standardized Coefficients	Zero-Order Correlations
	B	Standard Error	Beta	
Age	.11	.10	.10	-.02
Gender	1.85	3.52	.05	-.07
DASS-21	-.46	.16	-.26**	-.26
PPI-R	.01	.05	.01	-.14
IRI	.66	.14	.44***	.41

Note. PPI-R = Psychopathic Personality Inventory-Revised; DASS-21 = Depression,

Anxiety and Stress Subscales; IRI = Interpersonal Reactivity Index.

p<.01, * *p*<.001.

To examine the relationship between psychopathy and empathy a Hierarchical

Multiple Regression was employed to establish the relative contribution of the

independent variables to explain empathy. The multiple regression was entered in two

steps in a hierarchical order. Gender and age were entered first to control for variance

from these variables, followed by the AES, PPI-R and DASS-21 at step two. At step

one, gender and age were found to be significant predictors of empathy, $R^2 = .10$,

adjusted $R^2 = .09$, F_{change} (2,107) = 6.13, $p =$. 003. Age and gender were found to

account for 10.30% of the variance in empathy at the initial stage of the analysis. At

step two, significant additional variance (19.50%) was explained by the AES, PPI-R

and DASS-21, $R^2\Delta = .30$, $F\Delta$ (3, 104) = 9.62, p<.001.

Table 3 shows the un-standardised regression coefficients (B), and the standardised regression coefficients (β) for the two step model of entry for the independent variables. At step two, age, PPI-R, and AES were significant predictors of empathy. Gender and the DASS-21 were not found to be significant predictor of empathy. The positive Beta weight for the AES indicated that higher scores of emotional intelligence were significantly related to higher scores on empathy. A negative Beta weight was found for age, indicating that younger age was significantly associated with higher levels of empathy. A negative Beta weight was also found for the PPI-R indicating that higher psychopathy scores were associated with lower levels of empathy. Further investigation of squared semi partial correlations showed that strongest unique contribution to empathy was by the AES which explained 15.00% of the variance, followed by age (7.73%), and the PPI-R (3.20%).

Table 3

The Regression Coefficients for the final step of the regression predicting empathy

	Unstandardised Coefficients		Standardized Coefficients	Zero-Order Correlations
	B	Standard Error	Beta	
Age	-.21	.06	-.29**	-.23
Gender	-3.30	2.22	-.13	-.21
DASS-21	.19	.10	.16	.01
PPI-R	-.07	.03	-.21*	-.21
AES	.27	.06	.40***	.41

Note. PPI-R = Psychopathic Personality Inventory-Revised; DASS-21 = Depression, Anxiety and Stress Subscales-21; AES = Assessing Emotions Scale.

* p<.05, **p<.01, *** *p*<.001.

Discussion

The current study sought to investigate the emotional and social processing associated with psychopathic personality. A broad community sample was employed to address the lack of research examining psychopathic personality traits in noncriminal samples (Hall & Benning, 2006). The study examined core factors associated with psychopathy and considered relevant to victim identification and vulnerability. Emotional intelligence and empathy were further investigated to review the capacity of psychopathic individuals to emotionally understand and relate to others or potential victims. The use of these factors also provided support for established relationships between psychopathy and construct validity, including empathy and negative emotionality (Hare, 2003; Lilienfeld & Widows, 2005; Watt & Brooks, 2012).

It was hypothesised that participants with higher levels of psychopathy would have greater recall of the sad unsuccessful female character, seeking to explore whether psychopathic personality was associated with a superior ability to identify vulnerability in others. Partial support for this hypothesis was found with psychopathy having a significant interaction effect for recall of successful characters. This revealed that a significant difference was found for recall of the unsuccessful character with participants with higher levels of psychopathy having greater recall of the unsuccessful character compared to those with lower levels of psychopathy. The results provided preliminary evidence of an association between psychopathy and observing vulnerability (Book et al., 2007; Wheeler et al., 2009), along with partially supporting previous findings by Wilson et al. (2008).

A number of other findings from the social information processing task were observed in the results, irrespective of psychopathy. Interestingly, for the sad character, successful males were recalled at higher rates than females, while unsuccessful females were recalled at higher rates than unsuccessful males. Sad male characters were recalled more frequently if successful, rather than unsuccessful. Sad females characters were recalled more frequently if unsuccessful rather than successful. The results suggested that recall may be influenced by participants' attitudes concerning gender roles and success (Huddy & Terkildsen, 1993; Plous & Neptune, 1997). Participants appeared to recall conflictual details in characters, contrary to the idea of a happy successful person and sad unsuccessful person (Huddy & Terkildsen, 1993; McGhee & Frueh, 1980; Plous & Neptune, 1997). The most prominent finding was that unsuccessful females were identified at higher rates, while sad successful males were highly identified. The findings suggested an unconscious predisposition towards recognition and recall of males that are successful, potentially reflecting societal stereotypes, and inconsistencies with television shows that portray the image of successful males (McGhee & Frueh, 1980). In contrast, the recall and recognition of unsuccessful females may reflect a bias towards women and achievement, with male success being recognised and female success unnoticed (Huddy & Terkildsen, 1993; Plous & Neptune, 1997).

The findings from the social information processing task indicated that participants across the study recalled a number of distinguishing features related to gender, success and emotion. The results suggest that people are capable of recognising and recalling salient characteristics in others. However, despite this ability, there does not appear to be a broader propensity towards exploitation of vulnerability in society. It is possible that people avoid acting in an exploitative or

criminal manner due to an underlying sense of morality, a feature commonly absent with psychopathy (Petruccelli et al., 2017). Psychopathy is associated with greater moral disengagement, poorer social bonds, limited empathic concern, and a general disregard for others (DeLisi et al., 2014; Petruccelli et al., 2017). Although psychopathy has been shown to be associated with a tendency towards observing vulnerabilities in others, it is possible that this may be explained by the response modulation hypothesis; the singular focus on a particular goal, allocating insufficient attention to stimuli outside of the scope of the current goal (Baskin-Sommers, Curtin, & Newman; Polaschek & Skeem, 2018; Smith & Lilienfeld, 2015). Therefore, reduced moral concern, coupled with a propensity towards dominance and a fixation on goal attainment, may account for psychopathic individuals being more likely to act on observed social information processing cues.

Extending on the findings related to social information processing, the study investigated the relationship between psychopathy and emotional intelligence, seeking to uncover whether psychopathic personality was associated with a "darker side" of emotional intelligence (Grieve & Panebianco, 2013; Nagler et al., 2014; Simon, 2010). The results did not find support for a relationship between psychopathy and emotional intelligence, with psychopathy failing to significantly predict the construct. The findings of the present research failed to support the results by Fix and Fix (2015) who found a positive association between psychopathy and features of emotional intelligence, such as interpersonal relationships and stress management in a community sample. Instead, the results support other research which has found no relationship between psychopathic traits and emotional intelligence (Ali et al., 2009; Brook & Kosson, 2013; Owens, McPharlin, Brooks, & Fritzon, 2018). This finding may reflect the tendency of individuals with higher levels of psychopathic traits to

engage in a superficial and charming manner, rather than having a genuine connection with another person (Hare, 1996; 2003; Owens et al., 2018), something that may be largely instrumentally driven.

Despite no association between psychopathy and emotional intelligence, empathy and negative emotionality were found to be significant predictors. The results indicated that higher levels of empathy were associated with greater emotion intelligence, consistent with research pertaining to the construct (Baron-Cohen, 2011; Ekman, 2003; Goleman, 1995). Negative emotionality had a significant negative relationship with emotional intelligence, indicating that higher levels of emotional intelligence were associated with a reduced experience of negative emotions, suggestive of greater emotional wellbeing (Goleman, 1995).

Finally, support for the psychopathy construct in the current sample was found in the analyses examining empathy, with psychopathy a significant negative predictor. As predicted, a negative relationship was observed, supporting seminal theories on psychopathy and research pertaining to the construct (Ali et al., 2009; Brook & Kosson, 2013; Cleckley, 1976; Hare, 1999, 2003; Owens et al., 2018; Watt & Brooks, 2012). Additional findings indicated that a younger age and higher levels of emotional intelligence were significantly related to greater empathy. The findings pertaining to emotional intelligence are consistent with research concerning empathy and emotional intelligence (Davis, 1994; Ekman, 2003; Goleman, 1995).

Limitations and Directions for Future Research

The results of the social information processing task in the current study provided an understanding of recognition and recall of information about gender, emotion, and success. The findings revealed that recognition and recall of character

details was strongly related to success. The interaction results reflected this pattern of findings with the sad successful males recalled at higher rates and the sad unsuccessful females also most commonly recalled. Due to possible inconsistencies with societal images, the sad successful male character may have been recalled more frequently (Huddy & Terkildsen, 1993). The recall of the sad unsuccessful female may indicate negative beliefs pertaining to female happiness and success, with such beliefs reflecting suggestions that females are less likely to be happy and achieve career success (Plous & Neptune, 1997). The current research did not examine or control for extraneous factors such as attitudes, which may have influenced participants' recognition and recall of characters. To overcome this issue, future research may benefit from utilising an implicit association test, which is used to determine underlying beliefs and attitudes (Snowden, Gray, Smith, Morris, & MacCullough, 2004). Implicit association testing has previously been employed in research on psychopathy examining violent cognitions (see Snowden et al., 2004). This form of testing could focus on both the perception of vulnerability as well as general attitudes and biases that may influence judgment.

Further research investigating psychopathy and social information processing and perception would greatly assist to conclude an observable relationship between the constructs. Future studies would benefit from investigating perceptions of vulnerability using similar methodologies to that of Wheeler et al. (2009) or Wilson et al. (2008) in a sample of incarcerated offenders using the PCL-R. The PCL-R has been widely validated on incarcerated offenders (Hare, 2003) and may provide a more thorough understanding of the utility of these methodologies in examining psychopathic individuals' abilities to detect social cues and vulnerability. Given that incarcerated psychopathic offenders have commonly perpetrated acts of harm against

victims, observable differences in the processes of victim selection or identification may emerge.

The findings concerning psychopathy, empathy and emotional intelligence indicated a need for further research investigating the subscales and/or factors of psychopathy. While an established relationship between psychopathy and empathy deficits is apparent, mixed findings have been observed in relation to emotional intelligence. It is recommended that future research examine the relationship between psychopathy traits, rather than the overall construct, due research suggesting that trait constellation may vary based on criminal and noncriminal populations (Fritzon, Bailey, Croom, & Brooks, 2016; Hall & Benning, 2006; Hare, 2003; Howe et al., 2014). Important empirical understanding may be lost if psychopathy is viewed under the guise of a global construct. Although the research examined constructs associated with psychopathy, further investigation of interpersonal and environmental factors such as intelligence, lifestyle choices, social support, childhood development and employment would assist in understanding the moderated expression pathway of psychopathy. Through examining these factors, it may be possible to establish further support for the moderated pathway model of psychopathy (Hall & Benning, 2006), as these factors may modify the expression of psychopathic traits.

A limitation of the study was the predominance of self-report measures. The use of self-report instruments may have led to a large degree of bias and social desirability; however, Watts et al. (2015) contends that the validity of self-report psychopathy measures is not diminished by response distortion. Despite this, the study cannot rule out the possibility of respondents distorting their responses and faking bad or faking good on a given measure. Stricter data collection methods in future research would assist in reducing the likelihood of social desirable responding.

However, because of the lack of appropriate assessment tools to assess psychopathy in noncriminal contexts, which has previously restricted research into the construct (Babiak et al., 2010; Skeem et al., 2011), the survey style of research appears the most suitable method at present (Lilienfeld & Widows, 2005; Skeem et al., 2011). Furthermore, due to the sample size, statistical power was reduced, which limited inferences that could be made based on the data (Tabachnick & Fidell, 2007). Consequently, results may provide exploratory findings rather than scientific conclusions.

Conclusion

In conclusion, the research sought to address a wide range of social and emotional factors associated with psychopathic personality. The research found partial support for higher psychopathy scores and greater perception of vulnerability, with psychopathy associated with greater recall of unsuccessful characters. The finding proposes that psychopathic individuals may have a tendency towards identifying vulnerability in others, suggesting some confirmation of Ted Bundy's assertion that essentially, "you can tell a victim by the tilt of her head as she walks" (Holmes & Holmes, 2010). It appears that a reinforced process of goal oriented attention may lead to psychopathic individuals becoming adept at observing vulnerabilities in others, which while not necessarily reflective of greater skill, demonstrates a tendency towards prioritisation of this social information. Although support for a "darker side" of emotional intelligence was not found in relation to higher levels of psychopathy, empathy deficits were identified providing support for the psychopathy construct. The findings regarding emotional intelligence suggest that the tendency to relate to others and foster a sense of intimacy and connection may be

largely dependent on the instrumental motivations of a psychopathic person, rather

than general emotional understanding.

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