

Psychopathic Traits and Interpersonal Judgment: Examining Accuracy, Tendency, and  
Influence of Sex of Judge and Target

by

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Submitted in partial fulfilment of the requirements  
for the degree of Doctor of Philosophy

at

Dalhousie University  
Halifax, Nova Scotia  
September 2013

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## Abstract

Individuals who are high in psychopathic traits are known to cheat, lie, and manipulate others. One of the factors that may influence this behaviour is interpersonal judgment accuracy and tendency. There is some indication that increased psychopathic traits may be related to the ability to accurately judge the personality traits and emotions of others, and subsequently select individuals with characteristics that make them more vulnerable to manipulation and victimization. Alternatively, psychopathic traits may be related to a tendency to view others as possessing more vulnerable traits in general. The current study explored this topic by examining the relationship between psychopathic traits and the ability to accurately judge others' personality traits and emotional states, as well the tendency to judge others as being more vulnerable. These relationships were examined in the overall sample as well by sex of judge and target. Male and female undergraduate students ( $N = 131$ ) completed measures of psychopathic traits and narcissism. They were also asked to complete three tasks: 1) judge the personality traits and emotional states of individuals shown in brief video clips, 2) complete a memory task, select individuals who they would like to get to know better, and judge their vulnerability to being taken advantage of based on viewing photographs and brief written descriptions, and 3) judge brief displays of emotion. Results indicated that higher levels of psychopathic traits were related to enhanced judgment accuracy for certain traits and emotional states, but these relationships often varied depending on sex of judge and target. As well, psychopathic traits appeared to have a stronger relationship with judgment tendency than judgment accuracy, suggesting that individuals who are high in psychopathic traits tend to view others in a more negative light that may make them seem more vulnerable to manipulation. Judgment tendency also varied depending on sex of judge and target. Psychopathic traits showed stronger relationships with both judgment accuracy and tendency than narcissism. The results of the current study highlight the importance of continuing to study male and female psychopathy separately to gain an understanding of how psychopathic traits may manifest differently between the sexes.

### **List of Abbreviations and Symbols Used**

SRP-4	Self-Report Psychopathy Scale
NPI	Narcissistic Personality Inventory
*	Denotes a statistically significant difference ( $p < .05$ )
**	Denotes a statistically significant difference ( $p < .01$ )
IPM	Interpersonal Manipulation scale of the SRP-4
CA	Callous Affect scale of the SRP-4
ELS	Erratic Lifestyle scale of the SRP-4
CT	Criminal Tendencies scale of the SRP-4
$M$	Mean
MANOVA	Multivariate analysis of variance
$N$	Total number of participants
$p$	$p$ -value for significance testing
$r$	Correlation coefficient
$R^2$	Squared multiple correlation coefficient
$SD$	Standard deviation
$\beta$	Standardized regression coefficient

## Acknowledgments

I would first like to acknowledge my supervisor, Dr. Stephen Porter. Working with such a talented researcher over the last several years has inspired me to reach my own research potential. You gave me both the freedom and encouragement to do so, and I cannot thank you enough. I am grateful for the support I received from my internal supervisor, Dr. Simon Sherry. Thank you for all of the practical advice and guidance throughout this journey, as well as your helpful comments on my project as it progressed. Thanks are also due to Dr. Sean Barrett. You have been a valued committee member, and your many suggestions have helped shape my dissertation into what it is today. I would like to thank Dr. Elaine Ply for joining my committee at the last minute – you are a welcome addition. Special thanks to Dr. Angela Book for agreeing to serve as my external examiner, and for conducting the research that helped to spark my interest in psychopathy and interpersonal judgment.

Thank you to Randii Lynn Sullivan, who served as my research assistant on this project, and spent many hours entering and scoring data. As well, thank you to Natasha Korva, who facilitated data collection for the pilot study from across the country. Your assistance was greatly appreciated.

Special thanks to my fellow graduate students at Dalhousie University – my years in graduate school have truly been filled with wonderful people. In particular, Jenn, Kerry, Nancy, Shannon, and especially Jodie, from the day that we started on this journey together, you provided support and encouragement whenever it was needed, as well as a lot of fun. I would also like to thank the past and current members of the Porter lab, particularly Leanne and Marcus. You were always able to help me keep things in perspective, and were both an important part of my graduate school experience.

To my family and friends in Winnipeg: thank you for your support during this project, and for only occasionally asking me when I was finally going to be finished! My parents deserve a special mention – you raised me with a love of learning and gave me confidence that I could follow my dreams. I cannot thank you enough.

For the financial support that I have received throughout graduate school, I owe my gratitude to the American Psychology-Law Society, Dalhousie University, and the Social Sciences and Humanities Research Council.

Finally, I could not have done this without my husband Rick. You have been amazingly supportive and helpful in too many ways to mention, and I cannot wait for our next adventure together. My daughter Kyah also deserves thanks for being such an incredible little person who brings me more joy than anyone else. I love you both more than I can say.

## Chapter 1: Introduction

### Psychopathy

The concept of psychopathy is an important one in mental health and forensic settings, as well as in the general community. Approximately one percent of the general population could be classified as true psychopaths, whereas close to 25% of the population of federal offenders meet criteria (Hare, 2003). Psychopaths are known to cheat, lie, and manipulate others, and demonstrate traits including callousness, egocentricity, deceptiveness, and lack of remorse. They are often impulsive and lack behavioural controls, and many have a long history of criminal behaviour (Hare, 2003; 2006). Since the concept of psychopathy was outlined by Cleckley (1941; 1988) in his seminal book *The Mask of Sanity*, many researchers have developed theories about psychopathy, and measures that assess psychopathic traits. The “gold standard” measure is the Psychopathy Checklist-Revised (PCL-R; Hare, 1991; 2003), which was developed for use with offenders and is widely used in correctional institutions today. The PCL-R provides an overall score for psychopathy, as well as two factor scores which consist of four facets: Factor 1, which represents the interpersonal and affective features of the disorder, and Factor 2, which characterizes antisocial and behavioural features.

In forensic settings, psychopathy is a key factor in determining level of risk for general and violent recidivism (Hemphill, Hare, & Wong, 1998). As well, a diagnosis of psychopathy is informative to treatment planning, as psychopaths can react differently to treatment than non-psychopaths (e.g., Ogloff, Wong, & Greenwood, 1990). In fact, some researchers have argued that group treatment

offered in correctional settings actually worsens violent recidivism in psychopaths (Rice, Harris, & Cormier, 1992), although more recent research has shown that a treatment program aimed specifically at violence risk reduction can reduce harm related to psychopathy (Wong, Gordon, Gu, Lewis, & Olver, 2012).

Psychopathy is also an important concept in society in general, as psychopaths in the workplace (see Babiak & Hare, 2006, for a detailed examination of this issue), and in the community can wreak havoc in the lives of those around them. Psychopathy has sometimes been divided into “primary” and “secondary” classifications, with primary psychopathy being described as resulting from an inner deficit that leads to a lack of conscience and fearlessness, among other traits. In contrast, secondary psychopathy is thought to stem from environmental factors (e.g., being raised in an abusive home), and is associated with greater levels of anxiety and emotional dysregulation (e.g., Poythress & Skeem, 2006; Skeem, Johansson, Andershed, Kerr, & Loudon, 2007). Although both primary and secondary psychopaths tend to have high scores on measures of psychopathy, primary psychopathy is generally associated with increased Factor 1 traits, whereas secondary psychopathy is linked to more prominent Factor 2 traits.

### **Subclinical Psychopathy**

To date, much of the research on psychopathy has focused on offender populations. As mentioned above, there is a higher base rate of psychopathy in offenders than in the general population (Hare, 2003), and crimes committed by psychopaths are often sensationalized in the media. However, there is a growing interest in subclinical psychopathy (also referred to as community or non-clinical

psychopathy). The estimated base rate of subclinical psychopathy ranges from 5 to 15% of the general population (LeBreton, Binning, & Adorno, 2006; Salekin, Trobst, & Krioukova, 2001). Subclinical psychopaths are individuals who possess a high level of psychopathic traits but either refrain from becoming involved in criminal activities or avoid detection if they do. This has led some authors to refer to these individuals as “successful psychopaths” (e.g., DeMatteo, Heilbrun, & Marczyk, 2005; Hall & Benning, 2006; Widom, 1977), and it has been suggested that they may as dangerous as criminal psychopaths since they are able to avoid detection and remain in the community to continue exploiting others (Babiak & Hare, 2006; de Oliveira-Souza, Moll, Ignacio, & Hare, 2008; Paulhus & Williams, 2002; Williams, Paulhus, & Hare, 2007).

Studies that have examined subclinical psychopathy have included a wide variety of participants, including members of the general community, civil psychiatric patients, and undergraduate students (e.g., DeMatteo et al., 2005; de Oliveira-Souza et al., 2008; Mahmut, Homewood, & Stevenson, 2008; Neumann & Hare, 2008). In general, studies have shown that subclinical psychopaths are similar to criminal psychopaths in that they possess similar character traits and perform correspondingly on various tasks (e.g., Benning, Patrick, Blonigen, Hicks, & Iacono, 2005; Miller & Lynam, 2003; Miller, Watts, & Jones, 2011). However, their scores on psychopathy measures are often lower than those of offenders, particularly with regard to the lifestyle and antisocial behaviour facets. For example, Mahmut et al. (2008) found that undergraduates with increased levels of psychopathic traits showed similar deficits to criminal psychopaths (e.g.,

neuropsychological and empathy deficits), but that they had rarely engaged in criminal behaviour. Thus, it appears as though psychopathic traits can be present along a continuum, and do not necessarily lead to criminal behaviour.

The manifestation of psychopathic traits in subclinical psychopaths is an important topic to explore given the relative lack of studies with subclinical samples, as well as the fact that individuals high in psychopathic traits often cause devastation in the lives of many of the people they encounter while remaining free in the community. As Belmore and Quinsey (1994) pointed out, many of the key characteristics associated with psychopathy are not necessarily related to criminal behaviour, and much can be gained by expanding our understanding of community members with high levels of psychopathic traits. However, due to the low base rate of psychopathy, it is unlikely that many “true” psychopaths will be found in studies focused on community members unless extremely large samples or targeted sampling techniques are used. To address this issue, psychopathy is often examined from a dimensional/continuous perspective in community studies rather than the taxonomic/discrete perspective which is often employed in studies examining correctional populations (partly as a function of the PCL-R having an arbitrary cut-off score that separates psychopaths from non-psychopaths). Examining community samples with a range of psychopathic traits allows researchers to explore the relationships between these traits and various abilities and characteristics, and many researchers have used this strategy in the past (e.g., Mahmut et al., 2008; Neumann & Hare, 2008; Newman, Widom, & Nathan, 1985; Wheeler, Book, & Costello, 2009; Wilson, Demetriooff, & Porter, 2008).

## **Sex Differences in Psychopathy**

The original conceptualization of psychopathy, as outlined by Cleckley (1941) was based on adult male psychiatric inpatients. However, by the time the 5<sup>th</sup> edition of his book was published in 1988, Cleckley had had the opportunity to study psychopathy in a wide variety of individuals, including adolescents, community members, and females. In his case studies of female psychopaths, Cleckley (1988) described women who engaged in cheating, lying, and manipulation, which were key traits described in the male psychopaths he had previously observed. In fact, it was more the context in which these traits were observed (in the home environment for females vs. a more public environment for males), rather than the traits themselves, that differed (Verona & Vitale, 2006). Verona and Vitale (2006), concluded that, although there appear to be some differences in the base rate and manifestation of psychopathy in males and females, the evidence suggests that the key traits of psychopathy (i.e., interpersonal and affective traits) can be accurately assessed in females using available measurement tools and conceptualizations of psychopathy.

Thus, in recent years there has been a growing interest in examining possible sex differences in the construct and manifestation of psychopathy. Multiple studies have examined the utility and generalizability of the PCL-R with female offenders, and have found similarities in both the measurement and the manifestation of the disorder. On the whole, psychopathy measures have been found to generalize well to female samples (e.g., see Nicholls, Ogloff, Brink, & Spidel, 2005 for a review; Vitale, Smith, Brinkley, & Newman, 2002), although



males usually score higher than females (e.g., Hare, 1991; Salekin et al., 2001; Vitale & Newman, 2001). Some researchers have found that similar genetic factors underlie the stability of psychopathy in both males and females (Forsman, Lichtenstein, Andershed, & Larsson, 2008), but there is debate over whether psychopathic traits are manifested differently by males and females, and how this might influence the measurement of psychopathy (Forouzan & Cooke, 2005; Vitale & Newman, 2001). This debate has yet to be resolved.

Although researchers have begun to explore the construct of psychopathy in female offender samples, few studies of subclinical psychopathy have compared males and females. All-male samples are often recruited due to the higher base rate of psychopathy in males, and if female participants are included, they are often combined with males to into an overall sample. However, some studies have specifically examined sex differences in the measurement and manifestation of psychopathy, and the results are intriguing. In terms of measurement, studies that have specifically examined the factor structure of various versions of the Self-Report Psychopathy Scale (SRP-4; Paulhus, Neumann, & Hare, in press), which was designed to be a self-report counterpart to the PCL-R, have found that a four-factor model was equivalent for males and females in both community (Mahmut, Menictas, Stevenson, & Homewood, 2011) and undergraduate student (e.g., Williams et al., 2007) samples. As well, Neumann, Schmitt, Carter, Embley, and Hare (2012) found the four-factor model to be generally invariant across sex (as well as across different regions of the world) in a large scale, worldwide community sample of males and females. In terms of the manifestation of

psychopathic traits, several studies have found that females who are higher in psychopathic traits tend to demonstrate similar deficits in empathy and in emotional processing and range as psychopathic males (Jackson, Rogers, Neumann, & Lambert, 2002; Sutton, Vitale, & Newman, 2002; Verona & Vitale, 2006), and show similar patterns on measures of temperament, personality traits, and antisocial behaviour (Benning et al., 2005; Miller et al., 2011). Most studies that have examined sex differences in psychopathy and its relationship to other traits have found many more similarities than differences (e.g., Miller et al., 2011; Neumann & Hare, 2008; Ross, Lutz, & Bailey, 2004).

Often, if differences in the manifestation of psychopathy in males and females are found, they are differences of degree rather than of kind. For example, Widom (1977) found that both male and female psychopaths scored below college samples on empathy, but that female psychopaths scored higher than males. Similar differences in degree have been found for selective attention deficits, which are more prominent in males (Vitale, Brinkley, Hiatt, & Newman, 2007), relational aggression, which has a stronger relationship with psychopathy in females (Miller & Lynam, 2003), and criminality, which has a stronger relationship with psychopathy in males (de Oliveira-Souza et al., 2008). Interestingly, studies that have examined self-report psychopathy measures have found fewer differences between male and female undergraduate samples than those that have used clinician-rated instruments (Falkenbach, 2008). Schrum and Salekin (2006) used item response theory to examine psychopathy in female adolescents, and found that the items that were most discriminating for females

included “callousness and a lack of empathy”, “conning and manipulation”, and “a grandiose sense of self-worth”. Sprague, Javdani, Sadeh, Newman, and Verona (2012) found that the two factors of psychopathy interacted to predict Borderline Personality Disorder symptoms in females, but that only Factor 2 was associated with Borderline Personality Disorder symptoms in males. Thus, it appears as though the core construct of psychopathy can be applied to both males and females, although key traits may be manifested more strongly in males.

Despite the general trend of differences in degree rather than kind, there have also been some clear differences found in the manifestation of psychopathy in males and females. One of these differences is in the types of traits that are related to psychopathy. Hamburger, Lilienfeld, and Hogben (1996) found that higher psychopathy scores in undergraduate students were related to greater Antisocial Personality Disorder characteristics in males and greater Histrionic Personality Disorder characteristics in females. From a biological perspective, O’Leary, Loney, and Eckel (2007) found that decreased cortisol production in response to stress was a marker for male but not female psychopathic traits. When examining behavioural differences, Mullins-Nelson, Salekin, and Leistico (2006) found that only Factor 2 scores were related to antisocial behaviours in female community members, whereas both Factors 1 and 2 scores were related to those behaviours in males. Kreis and Cooke (2011) summarized the literature as indicating that females who are high in psychopathy “may be – or present as – less grandiose, physically domineering and aggressive than psychopathic men, and may use more relational aggression and sexual seduction to manipulate, dominate, and exploit others. [They] may present as more emotionally unstable and engage in stronger impression management

than psychopathic men.” (p. 634). Overall, it appears as though there are both similarities and differences in the manifestation of psychopathic traits in males and females.

Although there has been interest in various aspects of the similarities and differences in psychopathy in males and females, no studies to date have examined differences in the ability to accurately judge others or the tendency to view others as being more vulnerable. In fact, few studies have examined this topic in relation to psychopathic traits in general. In further examining the construct of psychopathy, and considering that manipulation is a key feature of the disorder, it becomes apparent how important it is to examine judgment ability and tendency.

### **Psychopathy and Manipulation**

Although many studies have examined a wide range of topics related to psychopathy, there are few that have examined the manner in which individuals who are high in psychopathic traits view, interact with, and manipulate others. In fact, there is a disconnect between what has been discussed in the literature and what has been observed clinically in terms of the successfulness of psychopaths’ attempts at manipulation. Many clinicians, correctional employees, and members of the general public have been fooled by a charming, deceitful psychopath. For example, recent studies have found that psychopaths were 2.5 times more likely than non-psychopaths to be granted conditional release (Porter, ten Brinke, & Wilson, 2009), and that psychopathic homicide offenders were more likely to be convicted of a lesser charge and be granted leave to appeal their convictions than non-psychopaths (Hakkanen-Nyholm & Hare, 2009), despite the fact that

psychopathy is known to be a significant predictor of risk for violent recidivism (e.g., Hemphill et al., 1998).

It is possible that psychopathic individuals are able to successfully manipulate others by making a good first impression, which is enough to lure unsuspecting victims into manipulation before they recognize the danger. Paulhus (1998) found that “self-enhancers” were initially rated quite positively by their peers on a number of desirable traits (e.g., extraversion, agreeableness), but these ratings became more negative at a later rating date. South, Oltmanns, and Turkheimer (2005) found that individuals with histrionic and antisocial traits were the only targets with pathological personality features to be consistently rated as attractive over time. As well, Friedman, Oltmanns, Gleason, and Turkheimer (2006) found that narcissistic personality was associated with increased ratings of extraversion, attractiveness, openness, and likeability. Other studies have shown that judges were more interested in getting to know narcissistic and antisocial individuals (e.g., Oltmanns, Friedman, Fiedler, & Turkheimer, 2004). In a specific investigation of psychopathy and first impressions, Fowler, Lilienfeld, and Patrick (2009) examined the ability of raters to accurately judge psychopathy using a thin-slice paradigm, and found that although first impressions of psychopathy were relatively accurate, particularly with regards to interpersonal and affective traits, judgment accuracy for psychopathy did not increase as presentation time increased, as it does with many other traits. The authors suggested that this could indicate that accurate first impressions are later charmed away by manipulative psychopaths.

In contrast, the few studies which have specifically examined psychopaths' ability to lie have found mixed evidence of their ability to fool a polygraph or observers judging their credibility. For example, Klaver, Lee, Spidel, and Hart (2009) found that individuals who were higher in psychopathic traits were rated as being less credible when being deceptive, whereas Porter, ten Brinke, Baker, and Wallace (2011) found that higher levels of psychopathic traits (Interpersonal Manipulation in particular) were related to decreased leakage of inconsistent emotional expressions during an emotional deception task. In a review, Cooper and Yuille (2007) suggested that these differences could be partially due to the artificial nature of the laboratory experiments that have examined deception, as well as the lack of motivation for both the liar and the credibility assessor. In real world situations, victims of psychopaths are often invested in believing them, or have no clear evidence to suggest that the individual is lying (although they may have a "gut feeling"). Psychopaths lie to friends and family members as easily as strangers, and romantic partners may also be abused and treated with little respect. In addition to being emotionally invested in a relationship with a deceitful psychopath, it is also possible that many of the victims of psychopaths possess traits that make them more vulnerable to believing their lies, such as low self-esteem or high empathy.

### **Vulnerability to Victimization**

Studying characteristics that may make individuals more vulnerable to victimization has been a topic of interest in the literature for years. Victimization can be defined broadly, and includes a variety of scenarios such as sexual assault,

childhood abuse, conning, and bullying. Across this broad definition, several traits or risk factors have consistently emerged as being related to victimization. These include low self-esteem (e.g., Egan & Perry, 1998), low assertiveness (e.g., Richards, Rollerson, & Phillips, 1991; Testa, VanZile-Tamsen, & Livingston, 2007), emotional instability (e.g., Glaso, Matthiesen, Nielsen, & Einarsen, 2007), and a history of past victimization (e.g., Marx, Heidt, & Gold, 2005). A review by Hawker and Boulton (2000) found that, for individuals who had been victimized by peers, depression showed the strongest association with victimization, and anxiety the weakest, with low self-esteem in between the two. Several studies have also found that people are able to identify individuals who are potentially vulnerable to victimization based on their gait and other non-verbal cues (e.g., Grayson & Stein, 1981; Gunns, Johnston, & Hudson, 2002; Sakaguchi & Hasegawa, 2006), and that potential victims are able to reduce their vulnerability by altering those cues (Johnston, Hudson, Richardson, Gunns, & Garner, 2004). Thus, there is some evidence that certain traits may be related to victim vulnerability, but it is unclear if these are traits considered by psychopaths when they engage in victim selection. It also appears that at least some of these traits can be reliably judged by observers, as has been shown by research examining interpersonal judgment abilities.

### **Interpersonal Judgment**

Interpersonal sensitivity or “accuracy in judging others’ traits and states” (Hall, Andrzejewski, Murphy, Mast, & Feinstein, 2008, p. 1476) is one of the most frequently examined topics in social psychology. Understanding the ways in which people interpret

the actions and emotions of others during social interactions is key to deciphering human relationships. Research on interpersonal judgment has examined the judgment of personality traits, intentions, and deception in a variety of contexts, and has shown that both individual and situational differences can affect the ability to accurately judge others.

Many studies have examined the judgment of personality traits of others, particularly judgment of the Big 5 traits of extraversion, neuroticism, agreeableness, conscientiousness, and openness. Judgment accuracy is often highest for extraversion ( $r =$  approximately .40 in many studies; Beer & Watson, 2008, Beer & Watson, 2010), followed by conscientiousness, neuroticism, openness, and agreeableness (Borkenau & Liebler, 1992; Carney, Colvin, & Hall, 2007; Hall et al., 2008). Judges do not have to even see a target to accurately judge their personality traits: studies examining personality trait judgments made after viewing targets' workspaces or bedrooms (Gosling, Ko, Mannarelli, & Morris, 2002) or reading stream-of-consciousness essays written by the targets (Holleran & Mehl, 2008) have found significant judgment accuracy. However, accuracy does tend to increase the more information judges have, or the better acquainted they are with the targets (e.g., Blackman & Funder, 1998; Letzring, Wells, & Funder, 2006; Vazire, 2010).

Many studies have also examined "zero acquaintance" judgments (Beer & Watson, 2008; Kenny, Horner, Kashy, & Chu, 1992; Yeagley, Morling, & Nelson, 2007), where judges are asked to rate the characteristics of individuals without interacting with them or watching them interact with others. There are surprisingly high levels of judgment accuracy in these types of situations, particularly when judging extraversion



(e.g., Penton-Voak, Pound, Little, & Perrett, 2006). Beer and Watson (2008) found that for traits that were less visible at zero acquaintance (i.e., conscientiousness, neuroticism, and agreeableness), judges tended to assume similarity between themselves and the targets when making their judgments, which suggests that judges may rate targets using their own characteristics as a reference when they lack other information to base their decisions on.

Even when making judgments with quite limited information (e.g., “thin slice” ratings, where judges are asked to rate targets after observing them for a short period of time) individuals are often fairly accurate at rating the personality traits of others (i.e., accuracy rates above chance). Self- and judge-ratings tend to show small to moderate correlations (i.e.,  $r_s = .20$  to  $.40$ ; Ambady, Bernieri, & Richeson, 2000; South et al., 2005), though some studies have found accuracy correlations as high as  $.50$  when examining judgments of personality pathology (Friedman, Oltmanns, & Turkheimer, 2007). Oltmanns et al. (2004) found that judges were able to make accurate judgments about personality pathology in military recruits after watching 30 seconds of a videotaped interview, and Friedman et al. (2007) found the same when undergraduate judges rated other students after watching them on videotape for 30 seconds. This was true even when judgments were made based on much more limited information (e.g., Friedman et al., 2006, asked participants to make judgments based on only audio, visual, or written stimuli). In a study examining the ability to assess romantic interest, Place, Todd, Penke, and Asendorpf (2009) found that judges were able to correctly identify romantic interest above a chance level after watching brief (10-30 second) video clips of a speed-dating couple. Interestingly, it was easier to judge male interest rather than female interest.

Studies have even found significant judgment accuracy when targets are viewed performing a standardized task rather than talking about themselves or engaging in an activity that would give clues about their personality traits (e.g., Borkeuau & Liebler, 1992).

Judgment accuracy depends not only on the amount of information available, but also on the nature of the traits being judged. Researchers have suggested that the reason accuracy rates are consistently high for the judgment of extraversion is that it is a highly visible trait which can be observed even during brief samples of behaviour. As well, Borkeuau and Liebler (1992) found that the physical attributes of their targets were more strongly related to extraversion than to other traits, which could help explain why judgment accuracy for extraversion is relatively high even when judges have very limited information about the target. Conversely, traits that are more internalized are more difficult to judge, particularly when judges are not previously acquainted with a target (Beer & Watson, 2008). In particular, multiple studies have shown that individuals are not very accurate at judging self-esteem (Vazire, 2010; Yeagley et al., 2007) and that they tend to overestimate the self-esteem of others (Kilianski, 2008).

Overall, there are many factors that can influence interpersonal judgment accuracy, including level of acquaintance between judge and target, amount of information available, and type of trait being judged. Some researchers have also suggested that there are certain characteristics that make someone a good judge of others.

### **Good Judge, Bad Judge**

Many researchers have attempted to examine the traits that may differentiate between a good judge and a bad judge of others. Unfortunately, there seems to be little

consensus in the literature as to what makes a person skilled at making interpersonal judgments (Funder, 1995). Several studies have examined the personality traits of judges, and found that good judges tended to be better at decoding non-verbal cues and were higher self-monitors (Ambady, Hallahan, & Rosenthal, 1995; Costanzo & Archer, 1989). Christiansen, Wolcott-Burnam, Janovics, Burns, and Quirk (2005) found that higher general mental ability and openness were related to increased judgment accuracy, and Letzring (2008) found that good judges were agreeable, possessed good social skills, and were well-adjusted. In contrast, an early study by Adams (1927) found that good judges of others tended to possess more negative and antisocial/indifferent qualities than good judges of self (e.g., touchy, moody, quick tempered, talkative but not social), whereas a review by Taft (1955) found that being well-adjusted and intelligent related to increased accuracy (as cited in Davis & Kraus, 1997). Ambady et al. (1995) suggested that people who are more sensitive to non-verbal cues are likely better judges of others, particularly in zero-acquaintance situations, and reviewed mixed evidence for increased judgment ability for extraverted individuals and high self-monitors. They also found that higher sociability and self-esteem were related to decreased judgment accuracy. Several studies have found that narcissism is related to decreased judgment accuracy for the traits of others (Friedman et al., 2007; Letzring, 2008), and one study found no association between Machiavellianism and performance on an interpersonal judgment task (Costanzo & Archer, 1989).

Overall, most of the traits that have been associated with increased accuracy in interpersonal judgments have been unsurprising. In a meta-analysis of studies of interpersonal sensitivity, Hall et al. (2008) found that empathy, affiliation, extraversion,

conscientiousness, openness, tolerance, and internal locus of control were related to increased interpersonal sensitivity. Higher levels of neuroticism, shyness, depression, and miscellaneous negative traits were related to decreased interpersonal sensitivity. Hall et al. (2008) noted that although correlations between personality variables and social judgment accuracy are often small, this is true for many examinations of individual differences, and should not be discounted as an important effect (Richard, Bond, & Stokes-Zoota, 2003, found the average effect size in social psychology research to be  $r = .21$ ).

Besides personality traits, researchers have also examined sex differences in judgment ability. In general, females tend to be better at person perception, and better judges of the personality traits of others than males (e.g., Ambady et al., 1995; Bernieri, Zuckerman, Koestner, & Rosenthal, 1994; Carney et al., 2007; Letzring, 2008; Vogt & Colvin, 2003). However, this effect seems to depend on the particular trait being judged (see Carney et al., 2007). Ambady et al. (1995) found that female judges were better at rating others than males, particularly when rating extraversion and positive affect. They also found that different traits in males and females were related to increased judgment accuracy (e.g., for males, higher sociability was related to increased judgment accuracy for conscientiousness, while the opposite was true for females). In general, females have been shown to be better than males at decoding non-verbal behaviour (Ambady et al., 1995; Costanzo & Archer, 1989), which is theorized to contribute to more accurate interpersonal judgments. Females also seem to rate targets as possessing higher levels of traits than males in general (Friedman et al., 2006). It is difficult to get a sense of general accuracy level, as the use of different samples, methods, and analyses across studies

make comparison of results more complicated. Lippa and Dietz (2000) found little evidence of gender differences in judgment accuracy, although females were found to be more accurate at judging neuroticism than males. Letzring (2010) examined the effects of gender and ethnic similarity between targets and judges on judgment accuracy, and found that for female judges, gender and ethnic similarity to targets were related to increased judgment accuracy, while for male judges, increased judgment accuracy was limited to female targets. Other studies have also found that accuracy for different traits depends on the sex of the target being judged (e.g., Borkeanu & Liebler, 1992; Penton-Voak et al., 2006; Yeagley et al., 2007).

### **Psychopathy and Interpersonal Judgment**

Although there is still little consensus on what makes a good judge of others, the evidence seems to point to positive traits, such as empathy and being well-adjusted. Friedman et al. (2007) suggested that individuals with personality disorders would have difficulty with interpersonal judgments due to their challenges with interpersonal relationships in general (although they noted that there is mixed evidence in the literature at the moment). Studies have found that characteristics typically related to psychopathy, such as being power-oriented, cold, impulsive, and exploitative of dependency were negatively related to judgment accuracy (e.g., Letzring, 2008). It has also been proposed that individuals with antisocial/narcissistic traits might be less motivated to participate in experimental tasks, and that their decreased judgment accuracy could be a result of a lack of effort rather than an actual deficit in judgment ability (Friedman et al., 2007). All of these factors would suggest that individuals with more negative traits, including those with higher levels of psychopathic traits, should be less accurate when judging the

personality traits and emotional states of others. In fact, these negative traits may lead them to view everyone as possessing more negative qualities (LeBreton et al., 2006). However, an alternative viewpoint is that individuals who are high in psychopathic traits have an ability to make accurate interpersonal judgments and exploit that interpersonal knowledge to successfully manipulate others. An early study by Adams (1927), which examined the correlates of good and bad judges, described good judges of others as possessing key traits of psychopathy:

The good judge of others tends towards the egotistic. He at any rate is cold blooded towards others and not interested in them. His thoughts and emotions consequently center about himself. He is the important thing in the universe for himself, and others are regarded by him as tools for his own satisfaction and gratification. He finds one suitable for one purpose, another for another, and develops a shrewd ability to measure others, not as human beings, but as tools. (p. 181)

Despite the fact that a key characteristic of psychopathy is harmful interpersonal interactions, there have been few studies that have examined psychopathy and interpersonal perception. Although they did not examine psychopathy specifically, Bernieri et al. (1994) found that empathy levels in judges did not moderate judgment accuracy. Mahaffey and Marcus (2006) examined the judgment of psychopathic traits within a group of individuals participating in sex offender treatment. They found that individuals who scored higher on a measure of psychopathic traits were rated by their peers as being more psychopathic, and that those who were higher in psychopathic traits themselves rated others as being more psychopathic. Interestingly, the potentially likeable

aspects of psychopathy (Social Potency and Carefree Nonplanfulness) were judged more accurately than the negative, manipulative aspects (Machiavellian Egocentricity and Coldheartedness), which the authors suggested could aid individuals with high levels of psychopathic traits in their attempts to manipulate and exploit others. In a meta-analysis that examined the characteristics of good judges, Davis and Kraus (1997) hypothesized that a tendency to manipulate others (Machiavellianism) would be related to increased judgment accuracy. They found that higher intellectual functioning and positive psychological adjustment, among other factors, were associated with increased judgment accuracy, whereas interpersonal manipulation was not. They concluded that although there is evidence for consistent associations with personality characteristics and judgment accuracy, “no single individual difference variable or class of variables exerts a powerful influence on accuracy” (p. 163).

Of the handful of studies that have specifically examined psychopathy and judgment of vulnerability, the initial results have been intriguing. Book, Quinsey, and Langford (2007) showed videotapes of interactions between two friends (two minutes in length) to male offenders, community members, and undergraduate students with varying levels of psychopathic traits, and then asked them to rate one of the taped individuals on his level of assertiveness. They found that psychopathy, and Factor 1 scores in particular, was significantly related to an increased ability to accurately rate assertiveness. This suggests that higher levels of psychopathy are associated with an increased ability to judge others on a trait that might make them vulnerable to victimization. In a more recent study by Wilson et al. (2008), undergraduate males were shown images and biographical information about

characters that were either happy or sad and successful or unsuccessful. Higher levels of psychopathy were associated with an enhanced memory for sad, unsuccessful female characters, but an impaired ability to remember other characters, indicating a possible predisposition towards remembering potentially vulnerable individuals. Finally, Wheeler et al. (2009) showed undergraduate students videotapes of individuals walking across a hall and asked them to identify how vulnerable the individuals would be to victimization. Higher levels of psychopathic traits were related to increased judgment accuracy for vulnerability (defined by self-reports of past victimization). The results of this study have recently been replicated with violent offenders, and psychopathy in this sample was also found to be related to using gait cues to determine vulnerability (Book, Costello, & Camilleri, 2013). The study by Wilson et al. (2008) was the only one to examine the effects of target sex on judgment.

The selection of vulnerable others may not be specific to looking for others to victimize criminally, but may be related to looking for others to socialize with in general, such as friends and romantic partners. In an interesting line of research, Kirkman (2005; interviewed in Regan & Walker, 2009) recruited females who felt that they had been “duped” in a romantic relationship. These women completed a rating of psychopathic traits for their former partners, and also completed measures of their own personality traits. Women who had been in a relationship with a presumably psychopathic male were found to have higher levels of empathy, and were viewed as cooperators. This suggests that psychopathic males may seek out women with traits that would make them vulnerable to manipulation and deceit in



a romantic relationship. It is unclear if this translates to partner selection of female psychopaths.

Although there is a small body of research supporting the notion that psychopaths may possess enhanced interpersonal judgment accuracy for vulnerable traits, there is also some indication that psychopaths may simply view everyone as possessing vulnerable traits. Black (2013) examined the relationship between Dark Triad personality traits and interpersonal judgment ability in undergraduate students. Results provided limited support for the relationship between psychopathic traits and enhanced judgment accuracy, but showed that higher levels of psychopathic traits were related to viewing others as being more neurotic, anxious, and depressed, which suggests that psychopathy is related to a tendency to view others as possessing negative qualities. Similarly, another study examining psychopathic traits using a speed dating paradigm found that males who were higher in Impulsive Antisociality tended to rate women they met during the event as being lower in self-esteem, competence, and selfishness (Payne, 2011). Other studies have not specifically examined how individuals high in psychopathic traits tend to view the personality traits and emotional states of others, but there is some indication in the literature that psychopathy is related to a hostile attribution bias in ambiguous situations (e.g., LeBreton et al., 2006). As well, von Borries et al. (2012) found that psychopathy was associated with a lack of avoidance tendencies for threat stimuli which was in turn related to instrumental aggression. This indicates that individuals who are high in psychopathic traits may lack some

basic automatic functions which influence how they interact in social circumstances.

It also appears as though individuals who are higher in psychopathic traits may perceive more conflict in their relationships, even if that is not reported by the other party (youth sample: Munoz, Kerr, & Besic, 2008), and that they may actually select more volatile individuals for friendships (Jonason & Schmitt, 2012). As mentioned previously, Mahaffey and Marcus (2006) found that individuals who were high in psychopathic traits tended to see others as possessing similar traits. This could explain why individuals who are higher in psychopathic traits tend to see others more negatively, although it does not explain why they would view others as possessing traits opposite to theirs, including higher levels of neuroticism, anxiety, and depression. Psychopathy has also been shown to be associated with the use of unique interpersonal influence tactics (e.g., charm, coercion) that are reportedly used no matter who the intended target (Jonason & Webster, 2012), which suggests that individuals who are high in psychopathic traits may simply try and use their manipulative techniques on everyone they meet. Thus, it is important to examine not only whether psychopathic traits are related to increased judgment accuracy for certain vulnerable traits, but also to look at how individuals who are high in psychopathic traits see others, and what biases may affect their interpersonal judgment ability.

### **Emotion Judgment Accuracy**

In addition to the judgment of potentially vulnerable personality traits, another aspect of interpersonal judgment is the ability to identify and respond to others'

emotional cues. Accurate emotion judgment not only facilitates social interaction, but also “affords an advantage in manipulating or exploiting other people” (Pham, Ducro, & Luminet, 2010, p. 31). In terms of people’s general ability to judge affect, Carney et al. (2007) found that participants were more accurate at judging negative rather than positive affect, particularly during brief presentations (i.e., five seconds).

Although psychopathy has often been associated with deficits in emotional experience and in emotion processing, there is some evidence for a relationship between emotion judgment accuracy and psychopathic traits. Book et al. (2007) found that higher levels of psychopathic traits were associated with a trend towards greater accuracy in judging the intensity of emotional facial expressions, particularly fearful expressions. Malterer, Glass, and Newman (2008) examined the relationship between psychopathy and trait emotional intelligence, and found that although psychopaths demonstrated deficits on several subscales of the emotional intelligence measure, they showed no deficit in clarity, which is the ability to distinguish affective states. Del Gaizo and Falkenbach (2008) looked at the relationship between primary and secondary psychopathy and emotion judgment in an undergraduate sample, and found that primary psychopathic traits were related to increased accuracy in judging fearful facial expressions. Other studies have not necessarily found enhancement of emotional knowledge and judgment, but have found no deficits associated with psychopathy (Ermer, Kahn, Salovey, & Kiehl, 2012; Mullins-Nelson et al., 2006).

In contrast, many other studies have found that psychopathic traits in both children and adults are associated with a deficit in processing fearful and sometimes sad

facial expressions (e.g., Blair, Colledge, Murray, & Mitchell, 2001; Blair et al., 2004; Iria & Barbosa, 2009; Iria, Barbosa, & Paixao, 2012; Stevens, Charman, & Blair, 2001).

Other studies have also found a deficit in identifying happiness (Hastings, Tangney, & Stuewig, 2008). These deficits have been theorized to contribute to psychopaths' ability to harm others without feeling guilt or remorse. However, a deficit in emotion identification does not fit with the notion that psychopathy enhances interpersonal judgment ability. A finding that may be a fit with both theories is that decreased accuracy has been associated with lifestyle and behavioural traits (Mullins-Nelson et al., 2006), while interpersonal and affective traits are related to increased accuracy (Habel, Kuhn, Salloum, Devos, & Schneider, 2002) as well as to self-perceptions of accuracy (Pham et al., 2010). One would expect that interpersonal manipulative traits in particular would be associated with enhanced interpersonal judgment.

Like many areas of psychopathy research, most studies on emotion judgment have examined only male participants or males and females together. However, several studies have specifically explored emotion processing in female psychopaths. A study by Sutton et al. (2002) found that female psychopaths showed similar emotion processing deficits to males (inhibited startle reflex). However, Vitale, Maccoun, and Newman (2011) found that deficits in emotion facilitation and passive avoidance performance were not related to psychopathy in a sample of female offenders. In one of the only studies to examine emotion judgment accuracy in psychopathic females, Eisenbarth, Alpers, Segre, Calogero, and Angrilli (2008) examined the ability of psychopathic female forensic patients to identify seven basic emotional expressions. Results showed that psychopathic

participants were less accurate at categorizing all emotions except for happiness, and were less accurate at identifying sadness when the image was presented rapidly. They were also more likely to identify angry, sad, surprised, and neutral facial expressions as being happy facial expressions when rapidly presented, and were more likely to identify longer presentations of fear expressions as anger. Reidy, Zeichner, and Foster (2009) also found that in a female undergraduate sample, higher levels of psychopathy were related to a deficit in processing sadness-related words. Overall, in the few studies that have examined the relationship between psychopathy in females and emotion processing, several deficits have been identified, and there does not appear to be a relationship between psychopathy and enhancement of emotion judgment.

Thus, the relationship between psychopathic traits and emotion judgment remains complex. To date, most research in this area has examined psychopathy from a taxonomic perspective, and it is unclear how potential enhancements or deficits in emotion processing may manifest across a continuum of psychopathic traits. As well, many studies have used stimuli with a constant facial expression, or with a facial image that gradually changes into a more intense emotional expression. In one of the only studies to examine psychopathy and judgment accuracy for briefly presented emotional expressions, Iria and colleagues (Iria & Barbosa, 2009; Iria et al., 2012) found that both criminal and non-criminal male psychopaths showed a deficit in recognizing briefly presented fear and sadness expressions in comparison to non-psychopathic criminal and non-criminal controls. As some researchers have found that criminality in general is associated

with decreased emotional judgment accuracy (e.g., Pham & Philippot, 2010), it is important to examine this ability in non-criminal samples.

Like judgment of personality traits, few studies of emotion judgment have examined the effect of target sex on judgment accuracy. Hansen, Johnsen, Hart, Waage, and Thayer (2008) examined the relationship between psychopathic traits and the accuracy of judgments of seven basic facial expressions. They found that impulsive and antisocial traits were significantly related to increased accuracy for disgust expressions, and that this was the case for both male and female targets (although interpersonal style was negatively related to disgust judgment accuracy for female targets). However, all participants were male, so possible differences based on sex of judge were not examined. It is important to examine this topic in more detail, taking into account both sex of judge and sex of target.

### **The Current Study**

Although there is preliminary evidence that individuals who are high in psychopathic traits view others in a negative light, and may possess an enhanced ability to identify traits that may be related to vulnerability, there is little research in this area to date. In an attempt to further explore the relationship between psychopathy and interpersonal judgment, the current study examined whether an ability to accurately judge the personality traits, vulnerability, and emotions of others, is related to psychopathic traits. The notion that psychopathic traits are related to viewing others as possessing more vulnerable traits in general was also explored. The current study is one of the few studies to examine this ability in a subclinical sample composed of undergraduate students. As well, this was the first study to examine judgment accuracy and tendency in both males

and females with varying levels of psychopathic traits. In the interpersonal judgment literature, judge ratings are often compared to target self-ratings, and sometimes to ratings of friends and family members of the target to determine judgment accuracy. Accuracy can also include consensus accuracy, when the judgments of multiple judges are compared to one another. For the purposes of the current study, the comparison of judge and target self-ratings was used to define accuracy.

### **Research Questions and Hypotheses**

The primary research question that is addressed in the current study is “*In what way are higher levels of psychopathic traits associated with interpersonal judgment, and do these associations differ depending on sex of judge and sex of target*”? It was hypothesized that higher levels of psychopathic traits would be associated with an ability to accurately judge the personality traits and emotional states of others. This relationship has already been shown in relation to one trait, assertiveness, and it was suspected that it may extend to other potentially vulnerable traits measured in the current study. In particular, it was expected that Factor 1 traits (Interpersonal Manipulation and Callous Affect) would show this association.

An alternative theory is that individuals who are high in psychopathic traits simply view everyone as being more vulnerable and as potential victims. Based on this theory, it was predicted that individuals with higher levels of psychopathic traits would rate others as possessing more vulnerable traits in general, regardless of their actual levels of said traits. This alternative theory was explored in the current study by examining the relationship between psychopathic traits and average judgment tendency for various traits and emotional states.

Several more specific questions were examined to address the overall research question:

*Are increased levels of psychopathic traits associated with having a better memory for more vulnerable individuals and with an increased likelihood of selecting potentially vulnerable individuals to associate with?* It was hypothesized that increased levels of psychopathic traits would be associated with better memory for more vulnerable individuals, and possibly with impaired memory for less vulnerable individuals. As well, it was hypothesized that individuals with higher levels of psychopathic traits would select potentially vulnerable individuals to associate with more often than less vulnerable individuals.

*Are increased levels of psychopathic traits associated with an ability to identify individuals who are potentially vulnerable to being taken advantage of?* It was hypothesized that increased levels of psychopathic traits would be associated with an enhanced ability to identify potentially vulnerable individuals.

*Are increased levels of psychopathic traits associated with an ability to correctly identify briefly displayed emotional facial expressions?* It was hypothesized that individuals with increased levels of psychopathic traits would show no deficits in correctly identifying emotional facial expressions. However, as results regarding psychopathic traits and emotional processing have been mixed, it was predicted that if individuals with psychopathic traits did show a deficit in processing and identifying emotional expressions, this would occur for fearful expressions. It was expected that Factor 2 traits (Erratic Lifestyle and Criminal Tendencies) in particular would be



associated with any deficits in emotion recognition, and that Factor 1 traits would not be related to deficits, and would possibly be related to enhanced emotion recognition.

*How will sex of judge and sex of target affect the relationships between psychopathic traits and judgment accuracy?* In terms of hypotheses, analyses regarding sex differences in judgment accuracy were more exploratory in nature, as there is only a small body of work examining the differences between male and female psychopathy. However, a theoretical model proposed by Kreis and Cooke (2011) suggested that female psychopaths may be more subtly manipulative, particularly in relationships, than male psychopaths. As well, women in general have been found to be more accurate judges of personality traits and emotions than men (e.g., Ambady et al., 1995; McClure, 2000). Thus, it was predicted that females would possibly show more relationships between psychopathic traits and increased judgment accuracy than males, but that both sexes would show increased judgment accuracy for similar traits. The results of the study by Wilson et al. (2008), as well as other studies examining the different characteristics of male and female victims (e.g., Shorey et al., 2011), suggest that target sex is an important variable to study, although it was unclear how target sex would interact with judge sex.

*Are increased interpersonal judgment accuracy and negative judgment tendency unique to individuals with higher levels of psychopathic traits?* Even if psychopathic traits were shown to be related to increased judgment accuracy or a particular judgment tendency, it would be difficult to say whether this is unique to psychopathy or whether individuals with similar traits would also demonstrate these characteristics. To further

explore this issue, a measure of narcissism was included in the current study. Narcissism was chosen because it is related to psychopathy, but the two constructs are only moderately correlated (e.g., Paulhus & Williams, 2002). Similarly to individuals with psychopathic traits, narcissists possess exploitative and manipulative tendencies, but generally use manipulation to obtain ego gratification rather than charming or conning others. Thus far, narcissism has been shown to be related to decreased accuracy when judging personality traits of others (Friedman et al., 2007). Thus, it was predicted that psychopathic traits would be a better predictor of increased judgment accuracy than narcissistic traits, and that narcissistic traits would be related to decreased judgment accuracy. As well, narcissistic traits were not expected to be related to emotion judgment accuracy. Narcissism was expected to be related to negative judgment tendency, although this tendency was predicted to be different than the negative tendency associated with psychopathic traits.

## Chapter 2: Methods and Procedures

### Methods for Study 1 (Pilot Study)

#### Participants

Participants in the pilot study were 20 undergraduate students (8 male, 12 female) who took part in the study in exchange for class credit. Ages ranged from 17 to 41 years ( $M = 21.9$  years,  $SD = 5.20$ ). Fifty-five percent of participants identified themselves as Caucasian, with the remaining 45% consisting of Arab/Middle Eastern (20%), Asian (15%), and African Canadian or Coptic (10%) participants. Seventy-five percent of the sample were majoring in or planned to major in psychology.

In order to be eligible for participation in the study, participants were required to be a part of the online Experimental Participation System (through the Department of Psychology), and had to be able to read, write, and speak English. The first requirement was necessary because participants were being reimbursed with one credit point towards an eligible psychology course. The second was important because all of the tasks and measures were administered in English. In particular, one of the tasks required participants to judge groups of trait words, which required a relatively strong grasp of the English language. There were no other inclusionary or exclusionary criteria. Participants were recruited through an advertisement posted online through the Experimental Participation System.

#### Stimuli

**Photographs.** Sixty photographs of male and female faces were selected from the Karolinska Directed Emotional Faces (KDEF; Lundqvist, Flykt, & Ohman, 1998). The KDEF is a database that consists of 4,900 photographs of 70 individuals (35 males and 35

females) between 20 and 30 years of age, each portraying seven different prototypical emotional facial expressions. For the purpose of the present study, only neutral facial expression images were selected. Photographs are in colour, and depict the head and shoulders of each individual facing straight on to the camera. Five male and five female photographs were eliminated by the researcher during the selection process, resulting in 60 photographs remaining. Two individuals were eliminated for having open mouths, and the others were eliminated after being judged to look the oldest or to look unusual and memorable due to various aspects of their appearance (e.g., having a particularly distinctive haircut, wearing obvious makeup). The final 60 photographs were shown on individual PowerPoint slides on a 22" computer monitor.

**Personality Trait Descriptors and Adjectives.** These stimuli were presented as paired groups of six or seven personality trait descriptors (five pairs in total) that were generated by the researcher for the purposes of the current study. Each pair consisted of one set of trait words that were selected to be generic personality descriptors, and a corresponding set of synonyms for the trait words (i.e., pairs were intended to describe the same traits using different words).

Participants were also shown a list of trait descriptors (e.g., assertive, anxious) and multiple adjectives that described each trait. These descriptors and adjective lists were created by the researcher for the current study.

## **Measures**

Participants were asked to complete multiple measures designed to gather ratings to assist in creation of stimuli for the main study. These measures included judgments about the age and attractiveness of the individuals in the 60 photographs described above,

as well as ratings of similarity for two groups of personality descriptors and ratings of synonyms for trait descriptors. All measures were designed by the researcher for the current study.

**Rating Age and Attractiveness.** This measure (see Appendix A) asked participants to answer two questions: *How attractive is this person?* which was rated on a Likert scale ranging from 1 (Not at all attractive) to 7 (Very attractive), and *How old do you think this person is?* Participants were asked to write in the estimated years of age.

**Rating Personality Trait Descriptions.** This measure (see Appendix B) asked participants to rate the similarity of each pairing of personality traits descriptors described above. They were asked to rate how similar the two descriptions were on a 1 (Not at all similar) to 7 (Very similar) point Likert scale. Participants were also asked to indicate whether or not the two sets of descriptors could be describing the same person (responding with Yes or No).

**Rating Trait Adjectives.** For each trait, participants were asked to choose the three adjectives that were the best descriptors of that particular trait. They were also asked to list any adjectives that they thought described the traits that were not already on the list (see Appendix B).

**Demographic Information.** Participants were asked to fill out a brief demographic information form including questions about sex, age, ethnicity, and education.

## **Procedure**

Participants arrived for individual appointments at the research lab. They were given the opportunity to read over and sign the consent form, and to address any

questions or concerns with the researcher. During the study, participants were asked to complete two tasks (the order of the tasks was counterbalanced across participants). Task 1 consisted of making judgments about the 60 photographs described above. Photographs were shown one at a time on a computer screen, and for each image participants were asked to rate the attractiveness and estimate the age of the individual depicted. Participants viewed one of four randomly ordered slide shows (although images always alternated between male and female) at their own pace, and were asked to press the space bar on the computer keyboard when they were ready to move to the next image. For the second task, participants were asked to complete the Personality Trait Descriptor and Adjective ratings. Finally, participants were asked to complete the Demographic Questionnaire. The researcher remained in the room with participants during the tasks to answer any questions or address any technical issues that arose. Following completion of the study, participants were debriefed and thanked for their time, and were awarded one credit point for their participation.

### **Results: Study 1 (Pilot Study)**

#### **Data Cleaning**

Prior to analyses, data were cleaned according to the methods described in Tabachnick and Fidell (2001). All variables met the assumptions required for the analyses, and no outliers were found. As such, all participants were included in the analyses and no variables were adjusted or transformed.

All ratings from the pilot sample were examined to determine whether counterbalancing of stimuli was effective. Overall, no significant order effects were found. Thus, participant ratings were combined across the various task and stimuli orders in analyses.

## Creating Stimuli for Study 2

Ratings from the pilot study were used to determine which pictures would be used as stimuli in the main study and which adjectives would be used to describe key vulnerable traits. As well, pilot ratings were used to confirm that groups of personality descriptors were rated as being similar to one another.

**Pilot Ratings for Photographs.** Each picture was assigned attractiveness and estimated age ratings according to the average rating across the 20 participants. Female photographs were rated higher in attractiveness than male photographs ( $M = 3.57, SD = 0.83$ ;  $M = 2.82, SD = 0.81$ ), but both female and male photographs had similar age estimates ( $M = 27.01, SD = 2.30$ ;  $M = 27.39, SD = 2.41$ ). Photographs with varying levels of attractiveness were retained for the main study, as attractiveness might be a selection criterion (i.e., perhaps more or less attractive individuals could be viewed as being “vulnerable”), whereas age would be less likely to influence vulnerability decisions (i.e., very old or very young age could indicate vulnerability, but there was not a wide range of ages in the current study). Also, the personality profiles were designed to be close in age to the judges due to possible similarity effects on judgments, particularly when judging affiliation interest. As such, it was decided that the 10 male and 10 female photographs that were judged to be the oldest would be eliminated from the study. Eliminated female photographs ranged in estimated age from 27.6 to 34.1 years, and attractiveness ratings ranged from 2.0 to 4.8. Eliminated male photos ranged in age from 28.6 to 34.7 years, and attractiveness ratings ranged from 1.85 to 3.35.

These eliminations resulted in 40 remaining photographs, 20 of which were used to create the personality profiles, and 20 of which were used as distracters in the memory task of the main study.

**Pilot Ratings for Trait Adjectives.** Participant ratings of trait adjectives aided in determining which adjectives would be used to describe vulnerable traits in the main study. Rankings of various adjectives for each key trait were examined, and those adjectives with the most frequent endorsement were considered for use as the final key trait descriptor. The researcher used these rankings to inform the choice of the final vulnerable trait descriptors to be used. For some traits the original descriptor was used, as it was determined that this descriptor most accurately represented the trait (e.g., high and low self-esteem, assertiveness). For others, participant rankings were used to determine one of the adjectives (e.g., empathetic and insensitive).

**Pilot Ratings for Groups of Personality Descriptors.** Each pairing of grouped personality trait descriptors was assigned an average similarity rating. It was decided prior to analyses that groups had to be rated at least 75% similar (i.e., rated at least 5.25 on a scale from 1 to 7) to be included in the main study, and that at least 75% of participants should state that the two groups could be describing the same person. All group pairings met these criteria, as shown in Table 1. Univariate tests showed that Pair 1 was rated significantly higher in similarity than Pair 5 ( $M = 6.30$ ,  $SD = 0.66$  vs.  $M = 5.35$ ,  $SD = 1.31$ ),  $t(19) = 2.97$ ,  $p = .008$ . No other pair ratings were significantly different.

### **Sex Differences in Ratings**

As splits by sex of judge were going to be used in analyses for the main study, t-tests were performed to examine whether males and females rated attractiveness and age



Table 1

*Mean Similarity Ratings for Grouped Personality Trait Descriptors*

	Mean Similarity Rating M ( <i>SD</i> )	% of participants stating that groups could be describing the same person
Pair 1	6.30 (0.66)	100%
Pair 2	5.85 (1.14)	90%
Pair 3	5.95 (0.83)	100%
Pair 4	5.75 (1.02)	85%
Pair 5	5.35 (1.31)	75%

*Note.* Similarity ratings ranged from 1 “not at all similar” to 7 “very similar”.

differently. Males rated male photos as being significantly more attractive than females did, (male  $M = 3.27$ ,  $SD = 0.42$ ; female  $M = 2.53$ ,  $SD = 0.88$ ),  $t(18) = 2.20$ ,  $p = .04$ .

There were no other significant differences.

T-tests were also performed to examine whether males and females rated personality trait descriptions differently. Males rated Sets 2 and 3 as being significantly lower in similarity than females (Set 2: male  $M = 5.25$ ,  $SD = 1.25$  vs. female  $M = 6.33$ ,  $SD = 0.78$ ,  $t(18) = -2.68$ ,  $p = .02$ ; Set 3: male  $M = 5.50$ ,  $SD = 0.93$  vs. female  $M = 6.25$ ,  $SD = 0.62$ ,  $t(18) = -2.18$ ,  $p = .04$ ). However, all ratings were still above the predetermined cutoff of 75%. There were no other significant differences.

### **Effect of Participant Ethnicity on Ratings**

Due to the ethnic diversity of the pilot sample, separate Univariate Analyses of Variance (ANOVAs) were conducted to compare mean ratings of attractiveness and personality descriptor similarity across ethnicities. There were no significant main effects

of ethnicity in any of the analyses (all  $ps > .05$ ), indicating that the ethnicity of participants did not significantly affect their ratings of stimuli in the current study.

### **Methods for Study 2 (Main Study)**

#### **Participants**

Participants were 132 undergraduate students (66 male, 66 female) who participated in exchange for class credit or for monetary compensation (\$20.00). They were recruited through an online posting on the Experimental Participation System website, as well as through recruitment posters in the psychology department and in various building on campus. Only participants who were not eligible for class credit (i.e., students not enrolled in a psychology class; 16 male participants) were compensated monetarily. Average age was 20.9 years ( $SD = 4.36$ ) and ages ranged from 17 to 49 years. Eighty-one percent of participants identified as Caucasian, while the remaining 19% described themselves as Asian (9%), Arab/Middle Eastern (5%), African Canadian or Coptic (2%), Other (2%), or Aboriginal (1%). Thirty-six percent of the sample majored in or planned to major in psychology, and 53% were dating or in a relationship. The mean year of study was 2.6 ( $SD = 1.26$ ) and participants had taken an average of one to three psychology courses ( $SD = 0.63$ ).

In order to be eligible for participation in the study, participants were required to be able to read, write, and speak English. This was important because all of the tasks and measures were administered in English. Participants were not eligible to participate if they had taken part in Study 1, since that study involved rating stimuli to be used in the current study, and participants could have been biased due to their previous exposure to the stimuli. There were no other inclusionary or exclusionary criteria.

## **Stimuli**

**Creation of Videos.** For the video judgment task, stimuli consisted of 12 videos (30 seconds each) of undergraduate students (six male and six female) talking about themselves. These videos were created for use in the current study, and were filmed at another Canadian university. Videos were created by screening potential participants with a series of online questionnaires measuring various personality traits that have been associated with vulnerability to victimization. These included self-esteem, assertiveness, empathy, anxiety, and depression. Seventy-nine individuals completed the following measures:

**Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965).** The RSES is a 10-item self report measure of global self-esteem, consisting of statements related to overall feelings of self-worth. Each item is scored on a four-point Likert scale ranging from 1 (strongly agree) to 4 (strongly disagree). Higher scores indicate higher self-esteem. The RSES has been administered extensively to a variety of populations, and has good internal consistency and convergent and discriminant validity.

**Rathus Assertiveness Schedule (RAS; Rathus, 1973).** The RAS is a 30-item self-report measure of general assertiveness. Each item is scored on a 6-point Likert scale ranging from -3 (very uncharacteristic of me, extremely nondescriptive) to +3 (very characteristic of me, extremely descriptive). Higher scores indicate higher levels of assertiveness. The RAS has been shown to have good reliability and good predictive validity (Rathus, 1973).

**Interpersonal Reactivity Index (IRI, Davis, 1983).** The IRI is a 28-item self-report scale that measures cognitive and affective empathy. It consists of four subscales –

Perspective Taking, Fantasy, Empathic Concern, and Personal Distress. Each item is scored on a 5-point Likert scale ranging from 0 (does not describe me well) to 4 (describes me very well). The subscales have shown adequate internal and test–retest reliabilities (Davis, 1983), as well as sufficient external validity. The present study only examined the Empathic Concern subscale.

**Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988).** The BAI is a 21-item self-report measure that asks participants to report symptoms of anxiety over the past week. Each item is scored on a 4-point Likert scale ranging from 1 (not at all) to 4 (severely) depending on how much an individual has experienced a particular symptom. This measure is specifically designed to minimize overlap with depressive symptoms, and has been shown to have good reliability and validity (e.g., Sexton & Dugas, 2009).

**Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996).** The BDI-II is a 21-item self-report measure that looks at symptoms of depression experienced over the past two weeks. Each item is scored on a 4-point Likert scale ranging from 0 (indicating no experiencing of the symptom) to 3 (indicating a significant experiencing of the symptom). Higher scores indicate higher levels of depression. The BDI-II has been used extensively in research on depression, and has good reliability and validity.

Individuals with the highest and lowest scores on measures of self-esteem and assertiveness (i.e., at least one standard deviation above or below the mean) were asked to come in to create the videos. Those traits were chosen because they have been the most consistently linked to vulnerability in the literature. When participants arrived at the lab, a female research assistant engaged them in conversation for several minutes while the

individual seated themselves in a chair in front of a video camera which was already recording. After the individual appeared to be comfortable and had given informed consent to participate, the research assistant stated a variation of the following: “You and I have met for the first time today. I would like you to talk about yourself as if you were meeting someone for the first time, and please make sure to include anything that you think is important for people to know about you. Please speak for at least one minute.” Each individual spoke for varying periods of time. When they were finished, participants were thanked and compensated with \$10.00 for their participation.

A total of 15 videos were created, and were edited to include only the first 30 seconds of each individual’s self-description. Three female videos were eliminated, one because the individual spoke for less than 30 seconds, and the other two because the camera angle was significantly different than in the other videos, which left a total of 12 videos to be included as stimuli in the current study.

**Creation of Personality Profiles.** Personality profiles were created with the photographs and personality trait descriptors described in Study 1 (see Appendix C). Photographs were matched on age and attractiveness ratings, and were randomly combined with personality trait descriptor groups as well as with a key trait descriptor. The descriptor groups and key trait descriptors were the same for male and female photographs. Thus, 20<sup>1</sup> personality profiles were created: five female and five male pairs, each with one person in the pair being high in a vulnerable trait, and the other being low. These were presented on separate PowerPoint slides. Each slide contained a photograph of a male or female face, and a description of that person consisting of eight personality

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<sup>1</sup> Only 16 personality profiles were analyzed in the current study. The profiles with interpersonal trust as a key trait were not included in analyses.

traits. The person's name and age (false name and average age based on participant ratings from Study 1) were also included on the slide.

**Microexpression Videos.** The microexpression stimuli consisted of 20 four-second videos created from the Pictures of Facial Affect (POFA; Ekman & Friesen, 1976), which consists of black and white photographs of males and females making various prototypical emotional facial expressions, including happiness, sadness, surprise, fear, anger, and disgust. The set also includes neutral facial expression photographs. The videos used in the current study consisted of three seconds of a neutral expression photograph followed by a photograph of an emotional expression that appeared for 1/25<sup>th</sup> of a second before returning to the neutral face.

## **Measures**

**Self-Report Psychopathy Scale-4 (SRP-4; Paulhus et al., in press).** The SRP-4 is a 64-item self-report measure of psychopathic traits used to measure subclinical psychopathy. It was designed to be a self-report counterpart to the Psychopathy Checklist-Revised (PCL-R, Hare, 1991; 2003). The SRP-4 is the only self-report measure of psychopathy that maps onto the four facets of psychopathy encompassed by the PCL-R: Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Criminal Tendencies. Participants respond to statements (e.g., "I find it easy to manipulate people", "I'm a soft-hearted person") on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), and items are added to provide four subscale scores as well as a total score. The SRP-4 has been shown to have good reliability and validity, and has been validated on university student samples.

**Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979, 1981; Raskin & Terry, 1988).** The NPI is a 40-item measure which has been widely used to measure narcissistic traits. It consists of 40 pairs of statements representing narcissistic and non-narcissistic views (e.g., “I have a natural talent for influencing people.” vs. “I am not good at influencing people.”; “Modesty doesn't become me” vs. “I am essentially a modest person”). Individuals are asked to select which statement describes them best, and a point is awarded for each narcissistic option selected, resulting in an overall score as well as seven scale scores: Authority, Self-sufficiency, Superiority, Exhibitionism, Exploitativeness, Vanity, and Entitlement. The NPI has been shown to have good reliability and validity for the overall scale score (e.g., del Rosario & White, 2005; Raskin & Terry, 1988), and is the most commonly used measure of narcissistic traits.

**Assessment of Personality Traits.** This measure (see Appendix D) was designed for the current study to record judgment ratings for each videotaped individual's level of empathy, self-esteem, assertiveness, anxiety, and depression. These ratings were made on a seven-point Likert scale, with 1 representing low levels of a trait, and 7 representing high levels. Similar rating scales have been used successfully in previous personality judgment research (e.g., Oltmanns et al., 2004).

**Memory Task.** This measure (see Appendix E) was designed for the current study. It consisted of 40 items, each one asking participants to answer yes or no as to whether they had seen a photographed face before, and to rate their confidence in that judgment on a seven-point Likert scale, with 1 being low confidence and 7 being high confidence.

**Affiliation Interest.** This measure (see Appendix F) was designed for the current study. It consisted of eight items with four parts each. The first item asked participants to select which of two individuals they would like to get to know better. They were also asked to rate on seven-point Likert scales how much they would like to get to know each individual better, how attractive each individual was, and how similar each individual was to them (on each scale, 1 represented low interest/attractiveness/similarity, and 7 represented high interest/attractiveness/similarity).

**Vulnerability Rating.** This measure (see Appendix G) was designed for the current study. It consisted of eight items, each one asking participants to select which of two individuals they thought would be more vulnerable to being taken advantage of, and to rate on a seven-point Likert scale the level of each individual's vulnerability (1 represented high vulnerability, and 7 represented low vulnerability).

**Identifying Emotional Expressions.** This measure (see Appendix H) was designed for the current study. It consisted of 20 items, each asking participants to judge which emotion was present from a choice of five emotions (happiness, sadness, fear, anger, and disgust). They were also asked to rate on a seven-point Likert scale how easy or hard they found the task, and how well they thought they did.

**Demographic Questionnaire.** This was the same standard demographic questionnaire used in Study 1.

## **Procedure**

Participants arrived for individual appointments at the research lab. Once they had read over the consent form and addressed any questions or concerns with the researcher, they signed the form to indicate their consent. During the study, participants were asked



to complete three tasks (the order of the tasks was counterbalanced across participants, resulting in six different task orders). Tasks were viewed via a PowerPoint slideshow on a 22" computer monitor. The researcher remained in the room during the study to provide instructions prior to each task as well as to answer any questions or address any problems that arose.

Task 1 consisted of watching the video clips of individuals talking about themselves. After watching each clip, participants were asked to rate the level of 14 different personality traits<sup>2</sup> for the person in the clip they had just viewed. Video order was counterbalanced across participants.

Task 2 involved several components. Participants first viewed a 10 minute slideshow consisting of the 20 different personality profiles. Each slide was on the screen for 30 seconds before transitioning to the next. Participants were instructed to remember as much about each person as they could, and were told that they would be asked to make judgments about them after viewing the slides. Immediately following the slideshow, participants viewed pictures of 40 male and female faces, half of which were the same pictures they had just seen. They were asked to indicate whether or not they had seen each person before, and how confident they were in this decision. Following the memory task, participants were shown the 20 original photographs presented as the high and low vulnerability pairs, and were asked to choose which individual they would like to get to know better. They were also asked to rate how much they would like to get to know each person better, as well as each individual's attractiveness and similarity to themselves.

Participants were then shown the pairs of photographs again, and were asked to choose

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<sup>2</sup> In addition to the five traits already mentioned, participants rated targets on level of trustingness, three additional aspects of empathy, and the Big 5 traits. Those ratings were not analysed in the current study.

which individual would be easier to take advantage of, and rate how easy it would be to take advantage of each person. The order of the interest and vulnerability ratings was counterbalanced across participants.

For Task 3, participants watched the 20 microexpression videos. After viewing a prototypical image of each emotional expression and two example videos, participants were asked to watch each video clip and then choose which of five emotional expressions appeared during the clip. Participants were allowed an unlimited time to respond following the presentation of each video clip. Following completion of the third task, participants were debriefed and given the opportunity to express questions or concerns about the study. They were thanked for their participation, and were compensated either with two credit points or \$20.00.

## Chapter 3: Results

### Overview

The present study examined the relationship between psychopathic traits, narcissism, judgment accuracy and tendency, and memory accuracy for others' personality traits, states and emotions. Sex differences in these relationships were also examined. The primary analytical techniques used to address the research questions were correlation and hierarchical regression. Regression analyses for the overall sample, unless otherwise noted, consisted of a model which included sex of judge entered in the first step, all four SRP-4 subscales entered simultaneously (or SRP-4 or NPI Total) in the second step, and the interactions between sex of judge and SRP-4 subscales (or SRP-4 or NPI Total) entered in the third step as predictors. Hierarchical regression analyses were used to examine the relative strength of predictors when both psychopathic traits and narcissism were included in the prediction model, with gender being entered in Step 1, the four subscales of the SRP-4 (or SRP-4 Total) being entered in Step 2, and the NPI Total score entered in Step 3. Analyses for the sample split by judge sex were identical except that sex was not included as a variable.

The first section of results will present descriptive information regarding key measures used in the study (i.e., SRP-4 and NPI). The second section will describe the results of analyses examining the relationship between psychopathic traits, narcissism, and judgment accuracy and tendency for potentially vulnerable personality traits and emotional states. The third section will examine the relationship between psychopathic traits, narcissism, and memory accuracy for potentially vulnerable individuals. The fourth section will describe the relationship between psychopathic traits, narcissism, and interest

in getting to know potentially vulnerable individuals, as well as vulnerability accuracy. The final section will examine the relationship between psychopathic traits, narcissism, and judgment accuracy and tendency for brief emotional expressions. All sections will begin with analyses examining the overall sample, will continue with analyses comparing male and female judges if those comparisons were warranted based on significant interactions between judge sex and SRP-4 scales, and will end with exploratory analyses split by sex of judge and sex of target.

It is important to note that no corrections were made for multiple testing (e.g., Bonferroni corrections). This decision was made based on the relatively exploratory nature of the study; few studies have examined the relationship between psychopathic traits and judgment accuracy and tendency, and those that have also did not use corrections (e.g., Book et al., 2007). As well, hypotheses were developed prior to data collection and analysis (except for relationships between judge sex and target sex), so analyses were driven by those hypotheses. An examination of the literature on the topic of statistical corrections suggests that adjusting the alpha level can result in increased Type II error, and that these adjustments are often too conservative (Perneger, 1998; Rothman, 1990), particularly when a relatively new area of study is being explored. Although most hypotheses in the current study were directional, in order to address the issue of potentially increased Type I error, all correlational significance tests were two-tailed (i.e., more conservative), and regression results were considered significant only if  $F < .05$  for the overall model, and  $p < .025$  for the individual coefficients (any values under  $F = .10$  and  $p = .05$  are described as being marginally significant). Because the analyses examining judge sex and target sex were exploratory, and it is hoped that these

results can guide future research, results that exceeded the cutoffs are described as trends in Appendix I.

### Descriptive Statistics

**SRP-4.** All 132 participants completed the SRP-4. Reliability of the overall scale was .91 (Cronbach’s alpha), and ranged from .73 to .84 for the four subscales (exact values are provided in Table 2). These reliabilities were quite similar to those of the normative sample of undergraduate students for the measure. As reliabilities were above the commonly used acceptable cutoff of .70 (Nunnally & Bernstein, 1994), all scales were included as variables in further analyses.

Table 2

*Alpha Reliabilities for SRP-4 Total and Subscale Scores*

Sample	IPM	CA	ELS	CT	Total
Overall	.81	.78	.84	.73	.91
Male participants	.82	.74	.83	.74	.91
Female participants	.77	.74	.81	.72	.89

*Note.* IPM = interpersonal manipulation, CA = callous affect, ELS = erratic lifestyle, CT = criminal tendencies, Total = SRP-4 Total

The mean score on the SRP-4 for the overall sample was 143.02 ( $SD = 27.02$ ), with total scores ranging from 83 to 222. Mean overall scores for the subscales and broken down by sex are shown in Table 3. Scores were examined to determine whether there were any significant differences between male and female participants. Independent sample t-tests showed that males scored significantly higher than females on the SRP-4 total scale,  $t(130) = 4.37, p < .001$ . Males also scored significantly higher than females on the IPM subscale,  $t(130) = 3.15, p = .002$ , the CA subscale,  $t(130) = 5.15, p < .001$ , and

the ELS subscale,  $t(130) = 3.68, p < .001$ . Males and females did not score significantly differently on the CT subscale ( $p > .05$ ).

Table 3

*Means, Standard Deviations, and Ranges for SRP-4 Total and Subscale Scores for the Overall Sample, Males, and Females*

Sample	IPM	CA	ELS	CT	Total
Overall: M (SD)	40.27 (8.73)	36.46 (8.14)	41.80 (9.95)	24.48 (7.43)	143.02 (27.02)
Range	21 – 66	20 – 66	21 – 66	16 – 54	83 – 222
Males: M (SD)	42.59 (9.10)	39.80 (7.58)	44.85 (9.86)	25.41 (7.53)	152.65 (26.45)
Range	24 – 66	24 – 66	21 – 66	16 – 47	105 – 222
Females: M (SD)	37.95 (7.74)	33.12 (7.31)	38.76 (9.15)	23.55 (7.28)	133.38 (24.16)
Range	21 – 55	20 – 54	21 – 58	16 – 54	83 – 211

*Note.* IPM = interpersonal manipulation, CA = callous affect, ELS = erratic lifestyle, CT = criminal tendencies, Total = SRP-4 Total

**NPI.** All 132 participants completed the NPI. Reliability of the overall scale was .76 (Cronbach's alpha), and ranged from .37 (Self-Sufficiency scale) to .68 (Vanity scale) for the seven subscales (exact values are provided in Table 4). Reliabilities were poor for all subscales (i.e., below the acceptable cutoff of .70); thus, only the overall score was used as a variable in further analyses. However, even the reliability of the Total score was questionable for female participants. In examining the item-level relationships for females, there were no obvious patterns in terms of types of questions that were decreasing the reliability, although almost half of the individual items were uncorrelated

with NPI Total. It is unclear why the NPI was not a reliable measure of narcissism in females in the current study.

Table 4

*Alpha Reliabilities for NPI Total and Subscale Scores*

Sample	Auth	SS	Sup	Exh	Exp	Van	Ent	Total
Overall	.65	.37	.44	.65	.46	.68	.38	.76
Male participants	.65	.33	.41	.71	.51	.61	.31	.80
Female participants	.66	.43	.43	.56	.39	.72	.36	.67

*Note.* Auth = authority, SS = self-sufficiency, Sup = superiority, Exh = exhibitionism, Exp = exploitativeness, Van = vanity, Ent = entitlement, Total = NPI Total

The mean score on the NPI for the overall sample was 15.88 ( $SD = 5.67$ ), with total scores ranging from 2 to 31 for males and from 4 to 26 for females. Mean scores were 17.20 ( $SD = 6.24$ ) for male participants, and 14.56 ( $SD = 4.71$ ) for female participants. An independent samples t-test showed that males scored significantly higher than females on the NPI,  $t(130) = 2.74, p = .007$ .

**Relationships between Key Variables.** Correlations between SRP-4 scales, narcissism, and demographic variables were examined. Significant results are presented in Table 5 (demographic variables with no relationship to SRP-4 or NPI scores are not included). As expected, SRP-4 scales were moderately correlated with one another, and highly correlated with SRP-4 Total. All SRP-4 scales except for CT were also moderately positively correlated with NPI Total. In terms of demographic variables, being male was significantly related to higher scores on SRP-4 scales (except for CT) and NPI Total. As well, being in a higher year of study was significantly related to decreased scores on IPM and CA. Having taken a greater number of psychology courses was significantly related

to decreased scores on all SRP-4 scales except for ELS (the direction of the relationship was the same, but it was only marginally significant).

Table 5

*Pearson Bivariate Correlations between Primary Study Variables*

	1	2	3	4	5	6	7	8	9
1. IPM	1	.57**	.52**	.36**	.79**	.41**	-.27**	-.20*	-.20*
2. CA		1	.52**	.39**	.79**	.24**	-.41**	-.18*	-.24**
3. ELS			1	.56**	.85**	.33**	-.31**	-.11	-.17
4. CT				1	.72**	.10	-.13	-.03	-.21*
5. SRP-4 Total					1	.35**	-.36**	-.17	-.26**
6. NPI Total						1	-.23**	-.06	-.12
7. Sex							1	-.01	.16
8. Year of Study								1	.24**
9. Psych Background									1

*Note.* IPM = interpersonal manipulation, CA = callous affect, ELS = erratic lifestyle, CT = criminal tendencies, SRP-4 = Self-Report Psychopathy scale, NPI = Narcissistic Personality Inventory, Sex = judge sex, Psych Background = number of psychology courses taken  
\* $p < .05$ . \*\*  $p < .01$ .

### General Data Cleaning

Prior to performing any analyses, the data was cleaned according to procedures described in Tabachnick and Fidell (2001). Several variables were missing data, but since few data points were missing and they appeared to be missing at random (i.e., a participant accidentally skipped an item), it was decided to replace the missing data rather



than deleting cases (one participant's data was deleted from the memory analyses; this is described further in the "Memory Accuracy" section below). Tabachnick and Fidell (2001) state that if fewer than five percent of data points are missing at random then most techniques used for data replacement will produce the same result. Thus, different techniques of individual mean-based replacement were used for different data points. These techniques included replacing missing personality trait ratings with that particular judge's rating for the trait that had the highest correlation with the missing trait (used for two cases), and replacing missing SRP-4 items with the mean score for that particular subscale (used for two cases). After replacing missing data, the dataset was examined for normality and outliers. The CT subscale was positively skewed, and was subjected to a log transform. Following transformation, this variable met the assumptions of normality according to the Kolmogorov-Smirnov test ( $p > .001$ ). The log transform of CT was used in all analyses, but analyses were conducted with the original variable as well, and results did not change (i.e., values changed slightly, but significance did not). In terms of dependent variables, memory accuracy and happiness accuracy were negatively skewed and kurtotic. Transforming the variables did not improve normality, so they were included in analyses with the caveat that it could be more difficult to find significant relationships between these and other variables.

In terms of outliers, one participant was a high-scoring outlier on IPM, CA, and SRP-4 Total, one participant was a high-scoring outlier on CA and SRP-4 Total, and two participants were high-scoring outliers on CT. Since one of the main objectives of the study was to examine the relationship between higher levels of psychopathic traits and judgment accuracy, the decision was made to retain the high-scoring univariate outliers in

the analyses provided that they were only outliers on those items (they did not appear to differ from the rest of the sample on any other traits or demographic characteristics). However, two of the univariate outliers were also identified as multivariate outliers. As suggested by Tabachnick and Fidell (2001), a stepwise regression analysis was conducted with a dummy variable comparing the outliers to the rest of the sample serving as the dependent variable, and gender, SRP-4 scale and total scores, and NPI total score as the predictor variables. Results showed that one of the multivariate outliers differed from the rest of the sample on a combination of CT, SRP-4 total score, and sex (the highest scoring female participant), and one was an outlier on CT score and NPI total score (high CT score and low NPI total score). The decision was made to adjust the relevant SRP-4 scores downward to the next lowest score for each of the outliers. The participant who was a multivariate outlier on CT score and NPI Total remained an outlier following the adjustment to his CT score, and was also an outlier when the data was split by sex of judge (there were no outliers for female judges). Given his unusual combination of high level of psychopathy and low level of narcissism, the outlier was deleted from the sample for all analyses<sup>3</sup>.

The data was checked for order effects for both overall task order and presentation order within each task. No significant relationships were found for overall task order. Although several significant main effects of presentation order were found across tasks, there was no consistent pattern to the results, which suggests that the effects are most likely due to chance. Thus, data were combined and analyzed across orders.

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<sup>3</sup> Analyses were run with and without the outlier, and there were few differences in the significance of results (most differences were in the relationships between variables in the memory task).

## **Personality Trait and Emotional State Judgment Accuracy and Tendency**

The relationships between psychopathic traits, narcissism, and judgment accuracy and tendency were examined using correlation and regression. Prior to analysis, accuracy scores were calculated for each participant by correlating self-reported levels of each of the five personality traits and emotional states with judge-rated levels of the same traits and states. These correlations were then aggregated across each trait and state, so that each judge had five trait and state accuracy scores. After accuracy scores were calculated, they were transformed from correlations to  $z$  scores using Fisher's  $r$  to  $z$  formula. This formula has been used to convert correlational accuracy scores in previous personality judgment studies (e.g., Beer & Watson, 2010; Vazire, 2010), as  $z$  scores are easier to interpret, and tend to meet the assumptions of normality associated with correlational analyses better than correlation coefficients. Final accuracy scores used in analyses were the  $z$  transformed scores<sup>4</sup>. Tendency scores were calculated by determining the average rating that each participant provided for each of the three personality traits and two emotional states. Both accuracy and tendency scores were also calculated separately for male and female targets.

**Individual Trait and State Accuracy.** The relationships between psychopathic traits, narcissism, and individual trait and state accuracy were examined by correlating SRP-4 scale scores and NPI Total with each individual trait and state accuracy score. Results indicated that there were significant relationships between CA ( $r = .17, p = .049$ ) and between ELS ( $r = .19, p = .028$ ) and increased judgment accuracy for anxiety. The predicted relationships between psychopathic traits and increased judgment accuracy for

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<sup>4</sup> To examine the data from a different perspective, additional accuracy analyses were also conducted using rank order accuracy. Please see Appendix J for the results of these supplementary analyses.

self-esteem and assertiveness were not significant, and the trends were in the opposite direction than expected.

Relationships between judge sex, psychopathic traits and judgment accuracy were further examined through regression. Neither psychopathic traits nor their interactions with judge sex were significant predictors of judgment accuracy ( $ps > .05$ ).

There were no significant correlational relationships between narcissism and individual trait accuracy. However, regression analyses revealed that the prediction model which included NPI Total, judge sex, and the interaction between the two explained 9% of the variance in anxiety accuracy,  $R^2 = .09$ ,  $F(1, 127) = 4.88$ ,  $p = .029$ . Being a female judge was a significant predictor of decreased anxiety accuracy ( $\beta = -0.23$ ,  $p = .010$ ), and the interaction between judge sex and NPI Total was a marginally significant predictor of anxiety accuracy ( $\beta = 0.24$ ,  $p = .029$ ). This interaction was explored further by conducting separate regressions for male and female judges. Results revealed that NPI Total was not a significant predictor of anxiety accuracy for either male or female judges (alone or with the SRP-4 subscales in the model,  $ps > .05$ ), although trends indicated that it was related to decreased accuracy for male judges and increased accuracy for female judges.

**Exploratory Analyses: Accuracy by Sex of Judge and Sex of Target.** The relationships between psychopathic traits, narcissism, and judgment accuracy by sex of judge and sex of target were examined by correlating SRP-4 scale scores and NPI Total with trait accuracy scores separately for male and females judging both male and female targets.

For male judges, CA was related to increased judgment accuracy for anxiety ( $r = .28, p = .023$ ) in male targets. As well, ELS was related to increased judgment accuracy for empathy when judging female targets ( $r = .27, p = .031$ ). For female judges, CT was associated with increased judgment accuracy for empathy when judging female targets ( $r = .30, p = .015$ ). There were no significant relationships with judgment accuracy for male targets.

Regression analyses revealed some additional relationships between individual psychopathic traits and judgment accuracy based on both sex of judge and sex of target. However, few of the overall regression models were significant, despite the significance of individual predictors. Thus, results are presented only if both the overall model and an individual predictor were at least marginally significant. More details regarding the significant independent predictors that were present within non-significant regression models can be found in Appendix I.

There was only one significant predictive relationship for male judges. The overall model predicting anxiety judgment accuracy for males judging male targets approached significance,  $R^2 = .14, F(4, 60) = 2.37, p = .063$ , and CA was a significant predictor of increased judgment accuracy ( $\beta = 0.39, p = .011$ ). For females judging male targets, CA was a marginally significant predictor of decreased accuracy for self-esteem ( $\beta = -0.33, p = .037, R^2 = .12, F(4, 61) = 2.07, p = .096$ ).

There were no significant relationships between judgment accuracy and narcissism for male judges, or for females judging female targets. However, narcissism in female judges was associated with decreased judgment accuracy for assertiveness in male targets ( $r = -.25, p = .041$ ). Regression analyses revealed that a model including the four

SRP-4 subscales and narcissism significantly predicted 22% of the variance in assertiveness judgment accuracy,  $R^2 = .22$ ,  $F(1, 60) = 8.77$ ,  $p = .004$ . Narcissism was a significant predictor of decreased judgment accuracy ( $\beta = -0.37$ ,  $p = .004$ ), and ELS was a significant predictor of increased accuracy ( $\beta = 0.50$ ,  $p = .002$ ).

Overall, psychopathic traits and narcissism had few relationships with judgment accuracy. The relationships that were present varied according to sex of judge and target.

**Individual Trait and State Judgment Tendency.** To examine the hypothesis that psychopathic traits are related to a tendency to judge everyone as possessing vulnerable traits, the relationship between psychopathic traits and judgment tendency for each of the five traits and states was examined. All four subtypes of psychopathic traits were found to have relationships with a tendency to rate individuals as being more anxious and depressed and as having lower self-esteem (see Table 6).

Table 6

*Pearson Bivariate Correlations between Judgment Tendency and SRP-4 Scale Scores: Overall Sample*

SRP-4 Scales	Self-Esteem	Anxiety	Depression
IPM	-.13	.18*	.20*
CA	-.26**	.11	.22**
ELS	.03	.16	.17*
CT	-.01	.16	.18*
Total	-.11	.19*	.24**

*Note.* IPM = interpersonal manipulation, CA = callous affect, ELS = erratic lifestyle, CT = criminal tendencies, Total = SRP Total  
 \* $p < .05$ . \*\* $p < .01$ .

Regression analyses revealed that the overall model including judge sex and the four SRP-4 subscales predicted 11% of self-esteem judgment tendency,  $R^2 = .11$ ,  $F(4, 125) = 2.86$ ,  $p = .026$ . CA was significant predictor of a tendency to judge people as having lower self-esteem ( $\beta = -0.31$ ,  $p = .008$ ), while ELS was a marginally significant predictor of a tendency to judge people as having higher self-esteem ( $\beta = 0.25$ ,  $p = .034$ ). As well, SRP-4 Total was a significant predictor of a tendency to judge people as having higher levels of depression when judge sex was also in the model ( $\beta = 0.23$ ,  $p = .014$ ),  $R^2 = .06$ ,  $F(1, 128) = 5.98$ ,  $p = .016$ . Regression models including all four SRP-4 subscales did not significantly predict judgment tendency for anxiety or depression, and the interaction terms between judge sex and SRP-4 scales were not significant predictors of judgment tendency.

Narcissism was significantly related to a tendency to rate targets as more anxious ( $r = .25$ ,  $p = .003$ ). The regression model including NPI Total and judge sex predicted 7% of the variance in anxiety judgment tendency,  $R^2 = .07$ ,  $F(1, 128) = 7.65$ ,  $p = .007$ , and narcissism was a significant predictor of increased anxiety judgment tendency ( $\beta = 0.24$ ,  $p = .007$ ). Although narcissism remained a significant predictor with SRP-4 subscales added to the model, the overall model was not significant ( $p = .650$ ).

**Exploratory Analyses: Tendency by Sex of Judge and Sex of Target.** When broken down by sex of judge and sex of target, similar patterns emerged. For males judging male targets, SRP-4 Total ( $r = .26$ ,  $p = .036$ ) was significantly related to a tendency to rate targets as more anxious, while IPM ( $r = .29$ ,  $p = .020$ ), CA ( $r = .25$ ,  $p = .048$ ), CT ( $r = .27$ ,  $p = .032$ ), and SRP-4 Total ( $r = .29$ ,  $p = .019$ ) were significantly related to a tendency to rate targets as more depressed. There were no significant

relationships for males judging female targets. Regression analyses revealed that for male judges, the overall model predicted 15% of the variance in depression rating tendency,  $R^2 = .15$ ,  $F(4,60) = 2.73$ ,  $p = .037$ , and CT was a marginally significant predictor of rating male targets as being more depressed ( $\beta = 0.34$ ,  $p = .043$ ). More details regarding the significant independent predictors that were present within non-significant regression models can be found in Appendix I.

For female judges, ELS ( $r = .25$ ,  $p = .045$ ) and SRP-4 Total ( $r = .25$ ,  $p = .047$ ) were significantly related to a tendency to rate assertiveness higher when judging male targets, while IPM was significantly related to a tendency to rate empathy higher when judging female targets ( $r = .26$ ,  $p = .033$ ). Regression analyses revealed that the overall model was marginally significant, explaining 13% of the variance in self-esteem rating tendency,  $R^2 = .13$ ,  $F(4,61) = 2.24$ ,  $p = .075$ . CA was a significant predictor of a tendency to rate female targets as being lower in self-esteem ( $\beta = -0.42$ ,  $p = .007$ ), while ELS was a marginally significant predictor of rating female targets as being higher in self-esteem ( $\beta = 0.33$ ,  $p = .039$ ). IPM was a marginally significant predictor of rating female targets as being higher in empathy ( $\beta = 0.30$ ,  $p = .039$ ), although once again the overall model only approached significance,  $R^2 = .13$ ,  $F(4,61) = 2.28$ ,  $p = .071$ .

When broken down by sex of judge and sex of target, narcissism in male judges was related to a tendency to rate female targets as more assertive ( $r = .26$ ,  $p = .039$ ), but it was not a significant predictor with the SRP-4 subscales included in the regression model. For male judges, narcissism was also significantly related to rating male targets as being higher in anxiety ( $r = .27$ ,  $p = .030$ ). Narcissism in male judges was a significant predictor of a tendency to rate female targets as being more empathic ( $\beta = 0.32$ ,  $p = .019$ ),



and the overall model explained 16% of the variance in empathy rating tendency,  $R^2 = .16$ ,  $F(1,59) = 5.79$ ,  $p = .019$ . Narcissism in female judges was related to a tendency to rate female targets as more anxious ( $r = .24$ ,  $p = .049$ ), but it was not a significant predictor in the regression model. There were no significant relationships for females judging male targets.

### **Judgment Tendency as a Predictor of Accuracy**

To examine the influence of judgment tendency on accuracy, regression analyses were conducted which included both the SRP-4 subscales and the judgment tendency variables in a model predicting judgment accuracy. These relationships were only examined when the preceding regression analyses indicated a relationship between SRP-4 scales and judgment accuracy. Tendency was not a significant predictor of accuracy in the overall sample. When broken down by sex of judge and sex of target, tendency did not significantly predict accuracy over and above psychopathic traits for the variables of interest.

### **Memory Accuracy**

The relationships between psychopathic traits, narcissism, and memory accuracy for potentially vulnerable individuals were examined using correlation and regression. Prior to analyses, memory accuracy scores were calculated for each participant. Overall memory accuracy was determined by calculating the percentage of targets correctly remembered by each participant. Memory accuracy scores were also calculated for high and low vulnerability and male and female targets. These analyses included data from 130 participants, as one male participant accidentally skipped two items on the memory questionnaire. It was impossible to determine which targets his ratings applied to, so his

responses were not included in the analysis. Descriptive statistics for overall memory accuracy are shown in Table 7. Memory accuracy was high across all categories.

Table 7

*Means, Standard Deviations, and Ranges for Overall, High and Low Vulnerability, and Male and Female Memory Accuracy for the Overall Sample, Males, and Females*

	Overall Memory Accuracy	Low Vuln. Memory Accuracy	High Vuln. Memory Accuracy	Male Target Memory Accuracy	Female Target Memory Accuracy
Overall M ( <i>SD</i> )	92.62% (7.89)	89.69% (13.91)	91.26% (12.68)	92.32% (8.42)	92.92% (9.53)
Overall Range	58 – 100%	38 – 100%	25 – 100%	56 – 100%	56 – 100%
Male M ( <i>SD</i> )	92.22% (8.35)	89.04% (14.91)	91.23% (13.91)	93.33% (7.93)	91.11% (10.66)
Male Range	58 – 100%	38 – 100%	25 – 100%	61 – 100%	56 – 100%
Female M ( <i>SD</i> )	93.01% (7.44)	90.34% (12.93)	91.29% (11.44)	91.33% (8.83)	94.70% (7.94)
Female Range	58 – 80%	50 – 100%	50 – 100%	56 – 100%	61 – 100%

*Note.* Memory accuracy = the percentage of targets correctly remembered, Low vuln memory accuracy = accuracy for low vulnerability targets, High vuln memory accuracy = accuracy for high vulnerability targets

**Overall Memory Accuracy.** The relationships between psychopathic traits, narcissism, and overall memory accuracy were examined by correlating SRP-4 scale scores and NPI Total with overall accuracy scores. Results indicated that there were no significant relationships between psychopathic traits and overall memory accuracy (all *ps* > .05). There was also no significant relationship between narcissism and overall memory

accuracy, although the interaction between NPI Total and judge sex was a marginally significant predictor of accuracy,  $R^2 = .04$ ,  $F(1, 126) = 4.11$ ,  $p = .045$ , ( $\beta = 0.23$ ,  $p = .045$ ). Although there were no significant relationships between narcissism and overall memory accuracy when split by sex of judge, trends indicated that narcissism in male judges had a weaker positive relationship with accuracy than it did for female judges.

**High and Low Vulnerability Target Accuracy.** The relationships between psychopathic traits, narcissism, and high and low vulnerability target accuracy were examined by correlating SRP-4 scale scores and NPI Total with the percentage of high and low vulnerability targets remembered. Results indicated that the prediction model including judge sex, the four SRP-4 subscales, and the interactions between the two, explained 9% of the variance in memory accuracy for high vulnerability individuals,  $R^2 = .09$ ,  $F(4, 120) = 2.61$ ,  $p = .039$ . CT ( $\beta = 0.41$ ,  $p = .019$ ) and the CT x judge sex interaction ( $\beta = -0.43$ ,  $p = .007$ ) were significant predictors of increased memory accuracy for more vulnerable individuals. When these relationships were examined by sex of judge, trends indicated that CT was associated with increased accuracy for male judges and with decreased accuracy for female judges.

There were no significant relationships between narcissism and memory accuracy for high or low vulnerability individuals.

**Exploratory Analyses: Accuracy by Sex of Judge and Sex of Target.** The relationships between psychopathic traits, narcissism, and memory accuracy broken down by sex of judge and sex of target were examined by correlating SRP-4 scale scores and NPI Total with memory accuracy scores separately for males and females judging male and female targets. For male judges, SRP-4 Total ( $r = -.25$ ,  $p = .046$ ) was

significantly related to decreased memory accuracy for male targets. There were no significant relationships between psychopathic traits and memory accuracy for female judges, or for high or low vulnerability targets (all  $ps > .05$ ).

Narcissism was not significantly correlated with memory accuracy for male judges. For female judges, narcissism was significantly related to increased memory accuracy for male targets ( $r = .30, p = .015$ ), but was not a significant predictor with the SRP-4 subscales in the model.

Thus, psychopathic traits were associated with increased memory accuracy for more vulnerable individuals in the overall sample. However, this was not evident when examining memory accuracy broken down by sex of judge and sex of target. Narcissism was unrelated to memory accuracy for higher and lower vulnerability individuals.

### **Affiliation Interest**

The relationships between psychopathic traits, narcissism, and affiliation interest were examined using correlation and regression. Prior to analyses, affiliation interest scores were determined for each participant by calculating the percentage of potentially vulnerable individuals each participant chose to associate with. Affiliation interest scores were also calculated for higher and lower vulnerability male and female targets.

Descriptive statistics for affiliation interest scores are shown in Table 8.

**Overall Affiliation Interest.** The relationships between psychopathic traits, narcissism, and affiliation interest were examined by correlating SRP-4 scale scores and NPI Total with overall affiliation interest scores. Results indicated that there were no significant relationships between psychopathic traits and overall affiliation interest (all  $ps > .05$ ), or between narcissism and overall affiliation interest ( $p > .05$ ). Interaction terms

between sex of judge and psychopathic or narcissistic traits were not significant predictors.

Table 8

*Means, Standard Deviations, and Ranges for Affiliation Interest for the Overall Sample, Males, and Females*

Sample	% of Vulnerable Individuals Chosen to Associate With	% of Vulnerable Males Chosen to Associate With	% of Vulnerable Females Chosen to Associate With
Overall M ( <i>SD</i> )	46.74% (15.75)	47.58% (23.64)	45.91% (22.21)
Overall Range	10 – 90%	0 – 100%	0 – 100%
Male M ( <i>SD</i> )	47.73% (15.77)	45.15% (25.37)	50.30% (21.70)
Male Range	10 – 90%	0 – 100%	0 – 100%
Female M ( <i>SD</i> )	45.76% (15.79)	50.00% (21.70)	41.52% (22.00)
Female Range	10 – 80%	0 – 100%	0 – 100%

**Exploratory Analyses: Affiliation Interest by Sex of Judge and Sex of Target.**

The relationships between psychopathic traits, narcissism, and affiliation interest by sex of judge and sex of target were examined by correlating SRP-4 scale scores and NPI Total with affiliation interest scores separately for males and females judging male and female targets. There were no significant correlations between psychopathic traits and affiliation interest for male judges. However, psychopathic traits predicted 15% of the variance in affiliation interest,  $R^2 = .15$ ,  $F(4, 60) = 2.67$ ,  $p = .040$ . IPM was a marginally significant predictor of decreased affiliation interest in vulnerable female targets ( $\beta = -0.33$ ,  $p = .036$ ), while CA was a significant predictor of increased affiliation interest ( $\beta = 0.40$ ,  $p = .008$ ). For female judges, IPM was related to being less likely to choose to

associate with vulnerable females ( $r = -.25, p = .044$ ), but it was not a significant predictor.

Showing a similar trend, narcissism was significantly related to decreased affiliation interest in vulnerable females for female judges ( $r = -.27, p = .032$ ), but it was not a significant predictor. There were no significant relationships for male judges.

Overall, hypotheses regarding affiliation interest were not supported.

Psychopathic traits were only weakly associated with increased likelihood of selecting vulnerable individuals to associate with (and in fact were sometimes associated with a decreased likelihood of choosing these associations). Narcissism showed a similar pattern of relationships with affiliation interest.

### **Vulnerability Judgment Accuracy**

The relationships between psychopathic traits, narcissism, and vulnerability judgment accuracy were examined using correlation and regression. Prior to analyses, vulnerability accuracy scores were calculated for each participant. These were determined by calculating the percentage of targets each participant had correctly identified as being more vulnerable (i.e., targets that were intended to be seen as vulnerable based on their personality trait descriptions). Vulnerability accuracy scores were also calculated for high and low vulnerability male and female targets. Descriptive statistics for vulnerability ratings are shown in Table 9.

**Overall Vulnerability Accuracy.** The relationships between psychopathic traits, narcissism, and vulnerability accuracy were examined by correlating SRP-4 scale scores and NPI Total with overall vulnerability accuracy scores. Results indicated that being a female judge ( $r = .20, p = .024$ ) and IPM ( $r = .18, p = .043$ ) were significantly related to

increased vulnerability accuracy. The prediction model including the SRP-4 subscales and judge sex explained 11% of the variance in vulnerability accuracy,  $R^2 = .11$ ,  $F(4, 125) = 2.46$ ,  $p = .049$ . Both IPM ( $\beta = 0.33$ ,  $p = .003$ ) and judge sex ( $\beta = 0.22$ ,  $p = .021$ ) were significant predictors of increased accuracy. When the interaction terms were added into the model, the overall model was no longer significant, but the interaction term between judge sex and IPM was a marginally significant predictor. There were no significant relationships between narcissism and overall vulnerability accuracy ( $p > .05$ ).

Table 9

*Means, Standard Deviations, and Ranges for Vulnerability Accuracy Scores for the Overall Sample, Male Judges, and Female Judges*

	Overall Vulnerability Accuracy	Vulnerability Accuracy for Male Targets	Vulnerability Accuracy for Female Targets
Overall M ( <i>SD</i> )	63.03% (16.16)	63.64% (21.66)	62.42% (23.05)
Overall Range	30 – 100%	0 – 100%	0 – 100%
Male M ( <i>SD</i> )	59.09% (14.65)	62.12% (21.66)	56.06% (21.97)
Male Range	30 – 90%	0 – 100%	0 – 100%
Female M ( <i>SD</i> )	66.97% (16.73)	65.15% (21.71)	68.79% (22.50)
Female Range	30 – 100%	20 – 100%	0 – 100%

*Note.* Vulnerability accuracy = the percentage of vulnerable individuals correctly identified as being more vulnerable.

**Vulnerability Accuracy by Sex of Judge.** Due to the marginally significant interaction between sex of judge and IPM, the relationship between psychopathic traits and vulnerability accuracy by sex of judge was examined by correlating SRP-4 scale scores with vulnerability accuracy for male and female judges separately. There were no

significant relationships between psychopathic traits and vulnerability judgment accuracy for male judges (all  $ps > .05$ ). However, for female judges, psychopathic traits explained 20% of the variance in vulnerability accuracy,  $R^2 = .20$ ,  $F(4, 61) = 3.72$ ,  $p = .009$ . IPM was significantly related to increased vulnerability accuracy ( $r = .39$ ,  $p = .001$ ), and was a significant predictor of increased vulnerability accuracy ( $\beta = 0.51$ ,  $p < .001$ ).

**Exploratory Analyses: Accuracy by Sex of Judge and Sex of Target.** The relationships between psychopathic traits, narcissism, and vulnerability accuracy by sex of judge and sex of target were examined by correlating SRP-4 scale scores and NPI Total with vulnerability accuracy separately for male and females judging male and female targets. Once again, there were no significant relationships between psychopathic traits and vulnerability accuracy for male judges, regardless of the sex of the targets. However, for female judges, psychopathic traits explained 22% of the variance in male target vulnerability accuracy,  $R^2 = .22$ ,  $F(4, 61) = 4.28$ ,  $p = .004$ . IPM was significantly related to increased vulnerability accuracy for male targets ( $r = .40$ ,  $p = .001$ ), and was a significant predictor of increased vulnerability accuracy ( $\beta = 0.54$ ,  $p < .001$ ). Narcissism had no significant relationships with vulnerability accuracy for male or female judges, regardless of the sex of the targets (all  $ps > .05$ ).

### **Vulnerability Rating Tendency**

To examine the hypothesis that individuals who are higher in psychopathic traits tend to see others as more vulnerable in general, average vulnerability rating was examined, as well as average vulnerability rating for male and female targets. Results showed that IPM was predictive of having higher average vulnerability ratings ( $\beta = -0.25$ ,



$p = .025$ ), although the overall model only approached significance,  $R^2 = .07$ ,  $F(4, 125) = 2.24$ ,  $p = .069$ . Narcissism was not related to vulnerability judgment tendency.

**Exploratory Analyses: Tendency by Sex of Judge and Sex of Target.** For female judges, IPM was significantly related to a tendency to rate both male ( $r = -.25$ ,  $p = .046$ ) and female ( $r = -.30$ ,  $p = .016$ ) targets as being more vulnerable, although the regression models were not significant. In contrast, for male judges CT was significantly related to a tendency to rate male targets as being less vulnerable ( $r = .25$ ,  $p = .044$ ), though it was not a significant predictor in the regression models. Narcissism was not significantly related to a tendency to rate vulnerability as lower or higher overall (all  $ps > .05$ ).

Thus, hypotheses regarding vulnerability accuracy and tendency were somewhat supported. Psychopathic traits did not have a strong association with vulnerability accuracy overall, but were associated with increased vulnerability accuracy for female judges, particularly when they were judging male targets. In male judges, higher levels of psychopathic traits were related to a tendency to rate others as less vulnerable, particularly male targets, but female judges showed the opposite tendency. As predicted, narcissism was not associated with vulnerability accuracy or tendency.

### **Emotion Judgment**

The relationships between psychopathic traits, narcissism, and judgment accuracy for brief emotional expressions (i.e., microexpressions) were examined using correlation and regression. Prior to analyses, accuracy scores were calculated for each participant by determining the percentage of emotional expressions judged correctly by each participant. Percentage correct was also calculated separately for each of the five types of

microexpressions (happiness, sadness, fear, anger, and disgust). Descriptive statistics for emotion judgment accuracy are shown in Table 10. Participants showed almost perfect accuracy for judging happiness, while they were the least accurate at judging sadness.

Table 10

*Means, Standard Deviations, and Ranges for Emotion Judgment Accuracy for the Overall Sample, Male Judges, and Female Judges*

	Overall Accuracy	Happiness Accuracy	Sadness Accuracy	Fear Accuracy	Anger Accuracy	Disgust Accuracy
Overall M (SD)	60.53% (13.44)	96.59% (11.04)	34.09% (21.68)	57.39% (27.24)	47.73% (23.82)	66.86% (25.38)
Overall Range	30 – 90%	25 – 100%	0 – 100%	0 – 100%	0 – 100%	0 – 100%
Male M (SD)	60.30% (13.61)	96.97% (9.32)	36.36% (23.69)	58.33% (28.87)	46.21% (23.31)	63.64% (25.64)
Male Range	30 – 90%	50 – 100%	0 – 100%	0 – 100%	0 – 100%	0 – 100%
Female M (SD)	60.76% (13.37)	96.21% (12.59)	31.82% (19.39)	56.44% (25.69)	49.24% (24.40)	70.08% (24.89)
Female Range	35 – 85%	25 – 100%	0 – 75%	0 – 100%	0 – 100%	0 – 100%

*Note.* Emotion judgment accuracy = the percentage of emotional expressions correctly identified

**Overall Emotion Judgment Accuracy.** The relationships between psychopathic traits, narcissism, and emotion judgment were examined by correlating SRP-4 scale scores and NPI Total with emotion judgment accuracy scores. There were no significant relationships between psychopathic traits and overall emotion judgment accuracy ( $ps > .05$ ), or between narcissism and overall accuracy ( $ps > .05$ ).

**Individual Emotion Judgment Accuracy.** The relationships between psychopathic traits, narcissism, and individual emotion judgment accuracy were

examined by correlating SRP-4 scale scores and NPI Total with separate accuracy scores for each emotion. There was a significant relationship between IPM and decreased judgment accuracy for happiness ( $r = -.18, p = .038$ ). As well, IPM ( $r = .23, p = .008$ ), ELS ( $r = .20, p = .025$ ), and SRP-4 Total ( $r = .22, p = .012$ ) were significantly related to increased judgment accuracy for sadness. Regression analyses revealed that for sadness accuracy, the overall prediction model with judge sex and SRP-4 subscales approached significance,  $R^2 = .07, F(4, 125) = 2.03, p = .094$ , but none of the individual predictors were significant. For disgust judgment accuracy, the overall model approached significance,  $R^2 = .13, F(4, 121) = 2.15, p = .079$ , and both CA ( $\beta = 0.33, p = .042$ ) and CT ( $\beta = 0.36, p = .038$ ) were marginally significant predictors of increased accuracy.

There were no significant relationships between narcissism and judgment accuracy, and narcissism was not a significant predictor of emotion judgment accuracy ( $ps > .05$ ). However, the model including narcissism, sex of judge, and the interaction between the two was significant,  $R^2 = .04, F(1, 127) = 5.14, p = .025$ , and the interaction between narcissism and sex of judge was a significant predictor of fear judgment accuracy ( $\beta = 0.26, p = .025$ ).

**Emotion Accuracy by Sex of Judge.** Based on the results of the regression analyses in the overall sample, the relationship between narcissism and fear judgment was examined separately for male and female judges. NPI total was not significantly correlated with fear judgment accuracy, but trends indicated decreased accuracy for male judges and increased accuracy for female judges. For female judges, the regression model including the SRP-4 subscales and NPI Total predicted 13% of the variance in fear judgment accuracy,  $R^2 = .13, F(1, 60) = 4.19, p = .045$ , and both CA ( $\beta = 0.33, p = .036$ )

and NPI Total ( $\beta = 0.27, p = .045$ ) were marginally significant predictors of increased accuracy.

### **Exploratory Analyses: Emotion Accuracy by Sex of Judge and Sex of Target.**

The relationships between psychopathic traits, narcissism, and emotion judgment accuracy by sex of judge and sex of target were examined by correlating SRP-4 scale scores and NPI Total with accuracy separately for males and females judging male and female targets. There were no significant relationships between psychopathic traits and overall judgment accuracy for male or female judges (all  $ps > .05$ ). When judgment accuracy was examined separately for each emotion, it was found that for male judges, CT was significantly related to increased judgment accuracy of disgust in male targets ( $r = .31, p = .013$ ), and CA was significantly related to increased judgment accuracy of disgust in female targets ( $r = .29, p = .021$ ). For female judges, CT was significantly related to increased sadness accuracy when judging female targets ( $r = .28, p = .026$ ).

Regression analyses revealed that for males judging male targets, IPM was a marginally significant predictor of decreased judgment accuracy for happiness ( $\beta = -0.35, p = .031$ ), and the overall model was marginally significant,  $R^2 = .13, F(4,60) = 2.18, p = .082$ . As well, psychopathic traits predicted 16% of the variance in disgust accuracy for males judging females,  $R^2 = .16, F(4,60) = 2.78, p = .035$ , and CA was a significant predictor of increased accuracy ( $\beta = 0.42, p = .006$ ).

There were no significant correlational relationships between narcissism and judgment accuracy for male or female judges, regardless of the sex of the target ( $ps > .05$ ). However, for males judging male targets, narcissism explained 13% of the variance in sadness accuracy,  $R^2 = .13, F(1,59) = 4.19, p = .045$ , and was a marginally significant

predictor of decreased judgment accuracy for sadness with the SRP-4 subscales in the model ( $\beta = -0.28, p = .045$ ). For females judging male targets, narcissism explained 16% of the variance in fear judgment accuracy,  $R^2 = .16, F(1,60) = 5.41, p = .023$ . CA was a marginally significant predictor ( $\beta = 0.31, p = .044$ ) and NPI Total was a significant predictor ( $\beta = 0.30, p = .023$ ) of increased judgment accuracy for fear. Finally, for males judging female targets, a model including both psychopathic traits and narcissism explained 11% of the variance in happiness accuracy,  $R^2 = .11, F(1,59) = 5.16, p = .027$ , and narcissism was a marginally significant predictor of increased judgment accuracy for happiness ( $\beta = 0.31, p = .027$ ).

**Individual Emotion Judgment Tendency.** The relationships between IPM, decreased happiness accuracy and increased sadness accuracy can be partially explained by the total number of times each emotion was selected. IPM was significantly related to decreased frequency in selecting happiness ( $r = -.20, p = .022$ ) and increased frequency in selecting sadness ( $r = .25, p = .004$ ). Regression analyses revealed that with judge sex and all four SRP-4 subscales in the model, 9% of the variance in happiness tendency was explained,  $R^2 = .09, F(4,125) = 3.01, p = .021$ , and IPM was a significant predictor of decreased tendency to select happiness ( $\beta = -0.27, p = .015$ ). The model predicting sadness tendency was marginally significant,  $R^2 = .08, F(4,125) = 2.41, p = .053$ , and IPM significantly predicted an increased tendency to select sadness ( $\beta = 0.30, p = .007$ ). When interaction terms were added to the model, the interaction between judge sex and CA significantly predicted happiness judgment tendency ( $\beta = -0.41, p = .009$ ),  $R^2 = .16, F(4,121) = 2.50, p = .046$ , although IPM became a non-significant predictor. In terms of sadness, the overall model predicted 18% of the variance in judgment tendency,  $R^2 = .18$ ,

$F(4, 121) = 3.74, p = .007$ . IPM was a significant predictor of increased tendency to select sadness ( $\beta = 0.64, p < .001$ ), while CA was a significant predictor of decreased tendency to select sadness ( $\beta = -0.49, p = .002$ ), and the interactions between judge sex and IPM ( $\beta = -0.41, p = .003$ ) and judge sex and CA ( $\beta = 0.49, p = .002$ ) were additional significant predictors. Finally, the overall prediction model for disgust tendency approached significance,  $R^2 = .11, F(4, 121) = 2.24, p = .068$ , and the interaction between ELS and sex of judge was a marginally significant predictor of disgust judgment tendency ( $\beta = -0.33, p = .050$ ).

There were no significant correlational relationships between narcissism and judgment tendency, and narcissism was not a significant predictor of tendency ( $ps > .05$ ). However, the model predicting fear tendency was marginally significant,  $R^2 = .04, F(1, 127) = 3.89, p = .051$ , and the interaction between narcissism and sex of judge was a marginally significant predictor ( $\beta = 0.22, p = .050$ ).

**Emotion Judgment Tendency by Sex of Judge.** Happiness, sadness, and disgust judgment tendency were examined separately by sex of judge. For male judges, psychopathic traits predicted 24% of the variance in sadness tendency,  $R^2 = .24, F(4, 60) = 4.81, p = .002$ . IPM was significantly related to increased frequency in selecting sadness ( $r = .32, p = .009$ ), and was a significant predictor of increased frequency ( $\beta = 0.62, p < .001$ ). In contrast, CA was a significant predictor of decreased frequency in selecting sadness ( $\beta = -0.43, p = .003$ ). There were no significant relationships for frequency of selecting disgust.

For female judges, IPM ( $r = -.28, p = .026$ ) and CA ( $r = -.29, p = .018$ ) were significantly related to decreased frequency in selecting happiness. The overall regression

model predicted 25% of the variance in happiness selection tendency,  $R^2 = .25$ ,  $F(4,61) = 4.94$ ,  $p = .002$ , and both IPM ( $\beta = -0.30$ ,  $p = .025$ ) and CA ( $\beta = -0.42$ ,  $p = .005$ ) were significant predictors of decreased tendency. In contrast, ELS was a significant predictor of an increased tendency to select happiness ( $\beta = 0.43$ ,  $p = .004$ ). CA was also significantly related to increased frequency in selecting sadness ( $r = .25$ ,  $p = .041$ ), but was not a significant predictor in the regression model. The overall model predicting disgust tendency was only marginally significant,  $R^2 = .13$ ,  $F(4,61) = 2.31$ ,  $p = .068$ , but ELS was a significant predictor of decreased frequency of selecting disgust ( $\beta = -0.42$ ,  $p = .009$ ).

There were no significant relationships between narcissism and judgment tendency for male or female judges ( $ps > .05$ ), and narcissism was not significantly related to fear judgment tendency for male or female judges.

#### **Exploratory Analyses: Emotion Tendency by Sex of Judge and Sex of Target.**

When broken down by sex of judge and sex of target, ELS was significantly related to a decreased likelihood of selecting disgust for females judging female targets ( $r = -.25$ ,  $p = .040$ ). IPM ( $r = -.25$ ,  $p = .043$ ) and CA ( $r = -.27$ ,  $p = .027$ ) were significantly related to a decreased tendency to select happiness for females judging male targets.

For females judging male targets, psychopathic traits explained 31% of the variance in happiness judgment tendency,  $R^2 = .31$ ,  $F(4,61) = 6.89$ ,  $p < .001$ . IPM ( $\beta = -0.32$ ,  $p = .015$ ) and CA ( $\beta = -0.47$ ,  $p = .001$ ) were both related to a decreased tendency to select happiness, while ELS was significantly related to an increased tendency to select happiness ( $\beta = 0.48$ ,  $p = .001$ ). The overall prediction model was significant for female judges' tendency to select disgust for male targets,  $R^2 = .15$ ,  $F(4,61) = 2.71$ ,  $p = .038$ , but

none of the individual predictors were significant. For males judging females, psychopathic traits explained 16% of the variance in sadness tendency,  $R^2 = .16$ ,  $F(4, 60) = 2.76$ ,  $p = .036$ . IPM was a significant predictor of an increased tendency to select sadness ( $\beta = 0.45$ ,  $p = .005$ ), while CA was a marginally significant predictor of a decreased tendency ( $\beta = -0.34$ ,  $p = .026$ ).

Narcissism in male judges was related to an increased tendency to select sadness ( $r = .26$ ,  $p = .036$ ) and a decreased tendency to select fear in female targets ( $r = -.26$ ,  $p = .035$ ). However, regression analyses revealed that narcissism was not a significant predictor of emotion judgment tendency when the SRP-4 subscales were included in the prediction model.

### **Judgment Tendency as a Predictor of Accuracy**

To examine the influence of tendency on emotion judgment accuracy, regression analyses were conducted which included SRP-4 subscales and emotion selection frequency variables in the prediction model. These relationships were only examined when the preceding regression analyses indicated a relationship between SRP-4 scales and emotion judgment accuracy. In the overall sample, frequency of sadness selection was the only significant predictor of increased sadness accuracy ( $\beta = 0.46$ ,  $p < .001$ ),  $R^2 = .27$ ,  $F(1, 124) = 32.46$ ,  $p < .001$ . Tendency was also a significant predictor of increased disgust accuracy, ( $\beta = 0.51$ ,  $p < .001$ ),  $R^2 = .31$ ,  $F(1, 124) = 44.18$ ,  $p < .001$ , but CT remained a marginally significant predictor of increased accuracy ( $\beta = 0.19$ ,  $p = .038$ ). When broken down by sex of judge and sex of target, tendency was the only significant predictor of increased disgust accuracy ( $\beta = 0.34$ ,  $p = .007$ ),  $R^2 = .21$ ,  $F(1, 60) = 7.86$ ,  $p = .007$ , for males judging male targets. For females judging female targets, tendency was a



significant predictor of increased judgment accuracy for sadness ( $\beta = 0.36, p = .004$ ),  $R^2 = .22, F(1,60) = 9.07, p = .004$ , and CT remained a marginally significant predictor ( $\beta = 0.28, p = .032$ ). Finally, for males judging female targets, tendency was a marginally significant predictor ( $\beta = 0.26, p = .036$ ),  $R^2 = .22, F(1,59) = 4.62, p = .036$ , and CA was a significant predictor ( $\beta = 0.35, p = .020$ ) of increased disgust judgment accuracy.

Overall, psychopathic traits were mainly associated with increased emotion judgment accuracy, particularly when examining disgust judgment for male judges and sadness judgment for female judges (although they were also associated with decreased happiness judgment accuracy). However, psychopathic traits were also significantly related to an increased tendency to select sadness and a decreased tendency to select happiness, which could partially explain the judgment accuracy results. As predicted, narcissism showed few relationships with emotion judgment accuracy or tendency.

## Chapter 4: Discussion

### Overview of Results

It is clear that individuals who are high in psychopathic traits attempt to deceive and manipulate others for their own personal gain. In an investigation of the mechanisms that may facilitate those manipulative tendencies, the results of the current study suggest that higher levels of psychopathic traits may be related to a unique ability to accurately detect specific vulnerable characteristics in others. However, the results showed stronger support for the notion that individuals with psychopathic traits view others as possessing more vulnerable traits in general, and thus may attempt to lie, cheat, and steal from anyone they cross paths with. Results of the current study should be considered preliminary, given the exploratory nature of the study and the increased risk of Type I error due to the number of analyses conducted.

As is the case with many studies of personality judgment accuracy, the results of the current study were complex. Overall, higher levels of psychopathic traits were linked to increased judgment accuracy for certain personality traits and emotional states that may be related to vulnerability to victimization. These relationships varied based on the sex of the judge and the sex of the target. However, psychopathic traits were also related to decreased judgment accuracy for certain traits and emotional states. As well, there was little evidence to support the notion that individuals with higher levels of psychopathic traits remember and choose to associate with more vulnerable individuals. Significant relationships were small to moderate, and there were many non-significant relationships, though it should be noted that there were few deficits observed in the relationships between psychopathic traits and interpersonal judgment ability. Psychopathic traits were

consistently related to a tendency to judge others as possessing more vulnerable traits, regardless of their actual trait levels.

### **Psychopathic Traits and Overall Judgment Accuracy**

Contrary to prediction, no relationships were found between psychopathic traits and overall judgment accuracy. This was true for both accuracy of judging personality traits and emotional states of others. Although this finding is unexpected, it is not surprising in the context of the data collected. Higher levels of psychopathic traits were not consistently associated with increased judgment accuracy for individual traits and emotional states. Rather, they showed relationships with increased accuracy for some traits, no relationships with others, and even decreased accuracy for certain traits. Thus, when examining overall accuracy, which is essentially the mean accuracy for all traits combined, effects were likely washed out due to the variety of relationships present. The prediction that psychopathic traits would be associated with increased judgment accuracy overall was based on the expectation that relationships with individual trait and emotional state accuracy would all be positive, which was not the case in the current study. Based on these results, it appears as though the relationship between psychopathic traits and judgment accuracy in the current sample was not straightforward or particularly robust, and should be viewed as being dependent on the type of trait or state being judged rather than as a blanket ability.

### **Psychopathic Traits and Individual Trait/Emotional State Accuracy**

The hypothesis that increased levels of psychopathic traits in the overall sample would be associated with increased judgment accuracy for potentially vulnerable personality traits and emotional states, as well as increased memory accuracy for more

vulnerable individuals, received limited support. The only significant relationship between psychopathic traits and judgment accuracy for personality traits was for increased judgment accuracy for anxiety. Contrary to predictions, there were no significant relationships between psychopathic traits in the overall sample and increased judgment accuracy for self-esteem, assertiveness, empathy, or depression. Although psychopathic traits in the overall sample were related to increased memory accuracy for more vulnerable individuals, there were no significant relationships for males judging female targets, which would have been expected based on the findings of Wilson et al. (2008). It is possible that in the Wilson et al. (2008) study, the key trait that indicated vulnerability was a sad facial expression, which was lacking from the stimuli used in the current study. It is also possible that the results on Task 2 components were affected by the stimuli used for that particular task, as the pilot sample whose judgments were used to construct the stimuli was relatively ethnically diverse (55% Caucasian) in comparison to the main study sample (81% Caucasian). However, this explanation is less likely given the fact that there were no significant differences found in average ratings across ethnicities in the pilot study.

The lack of relationship between psychopathic traits and assertiveness judgment accuracy in particular contradicts the findings of Book et al. (2007). There are several reasons why the results of these two studies may have differed. Importantly, the methodology of the two studies was quite different. Book et al. (2007) videotaped targets that were unaware of being recorded while they engaged in conversation with a friend. In contrast, the targets in the current study were aware that they were being videotaped and were asked to deliver a monologue. The different format and length of these videos could

have resulted in different cues being presented for the judges to use as a basis for assertiveness judgment (e.g., Blackman & Funder, 1998). As well, method of analysis was different in each study; Book et al. (2007) correlated target and judge responses item by item, while in the current study, target scores on self-report measures were correlated with judge ratings on Likert scales. It is possible that if judges and targets had been asked to rate the traits using the same measure, stronger relationships would have been found. However, that method was not logistically feasible for the current study, as the design focused on examining the judgment of multiple traits rather than of assertiveness alone. A final key difference is that Book et al.'s (2007) sample included male inmates and community members as well as undergraduate students, whereas the current sample consisted solely of male and female undergraduate students. Although there have been many similarities shown between criminal and non-criminal psychopaths (e.g., Mahmut et al., 2008), it is possible that enhanced judgment ability for vulnerable traits is not as strong in undergraduate samples. Regardless of the reasons for these differences in results, the relationship between psychopathic traits and judgment accuracy for assertiveness remains unclear, and more work needs to be done to gain further understanding.

In terms of emotion judgment accuracy, the results of the current study differed from those of previous studies, which have often found an association between psychopathic traits and deficits in the judgment of fear or sadness. In fact, for participants in the current study, psychopathic traits were related to increased accuracy for sadness, and were unrelated to fear judgment accuracy. However, some studies have found similar results to those found in the current study; Marsh and Cardinale (2012) also found a

relationship between psychopathic traits and impairment in judging happiness (in terms of judging statements designed to elicit that emotion in others). As their analysis took into account hits and false positives, it is possible that individuals with higher levels of psychopathy simply selected happiness as an option less frequently, and thus were less accurate in their judgments. Previous studies have also found that individuals who are higher in psychopathy require a greater intensity of emotional expression to correctly identify sad expressions (Blair et al., 2001), and that they perform worse in identifying all emotions at a lower intensity (Hastings et al., 2008). In the current study, although facial expressions were presented only briefly, they were at a high level of intensity (i.e., prototypical expressions for each emotion), which could have minimized differences in processing ability between those higher and lower in psychopathic traits.

### **Psychopathic Traits and Individual Trait/Emotional State Judgment Tendency**

The results of current study showed stronger support for the notion that increased levels of psychopathic traits are related to judging people as being more vulnerable in general rather than to enhanced judgment ability. In particular, psychopathic traits were related to judging others as having higher levels of anxiety and depression, and lower self-esteem. Although few studies have examined the types of attributions that psychopaths make about others, those that have examined this topic have found that individuals with higher levels of psychopathy possess a hostile attribution bias, and tend to attribute the actions of others as coming from a negative place (LeBreton et al., 2006). As well, the results of the current study are similar to those of Black (2013), who also found that undergraduates who were higher in psychopathic traits tended to view others as being more vulnerable in general, and that this was not specific to the targets' actual

level of vulnerability. This supports the hypothesis that individuals who are high in psychopathic traits may not possess an innate ability to accurately judge others, but may simply view everyone as potential victims and attempt to manipulate everyone until they find a suitable victim. In the current study, psychopathic traits were not strongly related to the average judgment of personality traits, suggesting that this phenomenon may be specific to emotional states (i.e., anxiety and depression). However, higher scores on Interpersonal Manipulation were significantly related to rating others as being more vulnerable in Task 2 based largely on personality traits. As well, a higher score on Callous Affect was significantly related to lower overall ratings of self-esteem, which indicates that individuals high in this facet of psychopathy may see others as being more vulnerable on that particular trait.

In terms of emotion judgment tendency, results of the current study indicated that Factor 1 traits were consistently related to judgment tendency for both happiness and sadness. However, they were related to happiness and sadness judgment in opposite ways. Interpersonal Manipulation was related to choosing happiness less often and sadness more often, which likely contributed to the decreased accuracy for happiness and increased accuracy for sadness that was observed. In contrast, Callous Affect was related to a tendency to select sadness less often. Based on the results of the current study, it is clear that studies that examine emotion judgment using a forced-choice identification method should always examine the total number of times each emotion was selected, as it appears as though this may be quite relevant when investigating psychopathy and emotion judgment.

Overall, the results of the current study showed that in an undergraduate sample, there was more evidence to support the notion that psychopathic traits are related to a tendency to judge others as being more vulnerable in general, rather than to enhanced judgment ability. Although there was some evidence that psychopathic traits were related to increased judgment accuracy for anxiety and for empathy in female targets, they were not related to increased judgment accuracy for other vulnerable traits.

### **Sex Differences in the Relationships between Psychopathic Traits and Judgment Accuracy and Tendency**

As mentioned above, there was limited support for the notion that psychopathic traits are associated with an enhanced ability to judge others, although there were specific traits that appeared to be related to enhanced judgment. This ability also seems to be somewhat dependent on the sex of the individual who is high in these traits. The current study found several differences between males and females in terms of judgment ability, although, as predicted, the differences were more in the strength of the relationship rather than the directionality. Trends observed in the current study indicated that psychopathic traits might be related to judgment accuracy for different traits for males and females, although the overall regression models were not significant and thus the individual coefficients could not be confidently interpreted.

Although the relationship between psychopathic traits and judgment accuracy seemed to be more of a difference of degree when comparing the abilities of male and female judges, different psychopathic traits were often related to judgment accuracy for each sex. For example, psychopathic traits were related to increased judgment accuracy of empathy in female targets for both male and female judges. However, the specific type



of related psychopathic traits differed depending on sex of judge: for male judges, Erratic Lifestyle was related to increased accuracy, while for female judges, a significant relationship was found with Criminal Tendencies. A possible explanation for the observed sex differences in the relationships between particular psychopathic traits and judgment accuracy is that the same traits manifest in different ways for males and females. The results of one study indicated that males and females show different factor loadings on the PCL-R items (Salekin, Rogers, & Sewell, 1997), and if more evidence emerges to support this finding, it could indicate that although females and males who are high in psychopathy share similar traits, the specific items on psychopathy measures may be linked to different traits for each sex. For example, items that are linked to Callous Affect for males may be linked to Erratic Lifestyle for females, which could explain the differential relationships found in the current study. This could also be a further indication that psychopathic traits are represented differently in males and females, and should be examined more closely in future studies.

The current study also found that the relationship between judgment accuracy and psychopathic traits varied depending on the sex of the target being judged as well as the sex of the judge. In terms of personality trait judgment, when targets were male, psychopathic traits in male judges were related to increased judgment accuracy for anxiety, while for female judges there were no significant relationships (although psychopathic traits in female judges were related to increased judgment accuracy for vulnerability in male targets in Task 2). However, when targets were female, psychopathic traits in both male and female judges were related to increased judgment accuracy for empathy. Once again, there were few significant relationships when broken

down by sex of judge and sex of target, though there were almost no relationships between psychopathic traits and decreased judgment accuracy. The finding that psychopathic traits were related to increased empathy accuracy for female targets is particularly interesting, as research by Kirkman (2005, interviewed in Regan & Walker, 2009) suggested that female romantic partners of males who were described as being high in psychopathy scored higher on a measure of empathy. Thus, it is possible that both males and females with higher levels of psychopathic traits seek to exploit females who they see as being more empathic, which may not be viewed as a vulnerable trait in males. However, in female judges, psychopathic traits were also related to a tendency to judge females as being more empathic in general, so perhaps the relationship for female judges was partially a result of a more global rating tendency.

Similarly, judgment tendency differed depending on the sex of the judges and the targets. Specifically, the tendency to view others as being more anxious and depressed, and having lower self-esteem was specific to male judges who were judging male targets. There were no relationships between psychopathic traits and judgment tendency for males judging female targets, suggesting that males who are higher in psychopathic traits may see males in general as more vulnerable but not females. There were few relationships between psychopathic traits and judgment tendency for females, and those relationships that were found were inconsistent. This suggests that the relationships between psychopathic traits and judgment tendency are stronger in males than in females. It is also possible that there is a difference between the traits that males consider to be vulnerable as compared to the ones that females do, and future studies should explore this further.

In the current study, the relationships between psychopathic traits and emotion judgment accuracy differed depending on the sex of the judge. In particular, psychopathic traits were related to increased judgment accuracy for sadness for female judges, and for disgust for male judges. The finding of increased judgment accuracy for disgust is consistent with the results of Hansen et al. (2008), although it is inconsistent with the results of a previous study which found deficits in disgust accuracy (Kosson, Suchy, Mayer, & Libby, 2002). It is possible that the emotion judgment deficits that have typically been found in offender populations do not translate as well to subclinical samples. In fact, some studies have found a general deficit in emotion identification in criminal populations regardless of the presence of psychopathy (e.g., Pham & Philippot, 2010). Despite any possible differences between criminal and non-criminal samples, results of the current study indicate that in a subclinical sample, there was increased judgment accuracy for particular emotions, and these emotions were different for male and female judges. Once again, sadness judgment accuracy for female judges can be partially explained by a tendency to select sadness more often. However, for male judges, there were no relationships between psychopathic traits and disgust judgment tendency.

### **Relationships between Factor 1 Traits and Judgment Accuracy**

One hypothesis that was unexpectedly not supported by the results of the current study was that Factor 1 traits, and Interpersonal Manipulation in particular, would be associated with increased judgment accuracy. In fact, higher scores on Interpersonal Manipulation showed almost no relationship to judgment accuracy in any of the study tasks, although it did have some relationships with judgment tendency. Callous Affect, which is the other facet included in Factor 1, showed more significant relationships with

judgment accuracy and tendency, but did not show more of these relationships than the Factor 2 traits of Erratic Lifestyle and Criminal Tendencies. Considering that increased judgment accuracy was posited to facilitate the manipulation of others, it was surprising that no results emerged to support this notion. Although it is unclear why no relationship was found, it is possible that the participants in the current study were not particularly manipulative, and thus did not represent the top scores on that facet. If the range of Interpersonal Manipulation was not accurately represented in the current sample, then any potential relationships between that facet and judgment ability could have been muted, and difficult to uncover. Alternatively, perhaps being high in Interpersonal Manipulation is not a pre-requisite for accurately judging others. There could be other factors at play, such as similarity; for example, it is possible that higher scores on Erratic Lifestyle were related to increased judgment accuracy for anxiety because an erratic lifestyle leads to more anxiety. In other words, the experience of anxiety makes it more recognizable in others. Several studies have found no relationships between the traits of judges and targets (Funder, Kolar, & Blackman, 1995; Kilianski, 2008), although researchers have found that individuals who rate themselves as being more psychopathic rate others as possessing similar qualities (Mahaffey & Marcus, 2006). In this vein, it would be interesting to examine whether increased levels of psychopathic traits in subclinical samples increase judgment accuracy for psychopathic traits in others.

One interesting relationship that did emerge between Interpersonal Manipulation and accuracy was specific to female judges. In Task 2, Interpersonal Manipulation was consistently related to increased vulnerability judgment accuracy for female judges, but not for male judges. As well, when broken down by sex of judge and sex of target, this

relationship was specific to male targets, indicating that higher levels of Interpersonal Manipulation in females were significantly related to increased judgment accuracy for vulnerability in male targets. Although this is an intriguing finding, this relationship did not manifest in either Task 1 or Task 3, and was not evident in the affiliation interest or memory tasks. Future studies should attempt to replicate this finding, as it could help to clarify how females who are high in psychopathy might select their victims, and which traits they might see as vulnerable in male but not female targets.

Another interesting finding related to the relationship between psychopathic traits and interpersonal judgment was that different traits were related in different ways to various types of judgment accuracy and tendency. For example, Callous Affect was related to rating people as being lower in self-esteem, while Erratic Lifestyle was related to rating people as having higher self-esteem. Thus, the relationship between psychopathic traits and interpersonal judgment appears to be more complex and unique to each type of psychopathic trait than was initially expected. The results of the current study indicate that it may be important to consider the individual types of psychopathic traits when examining interpersonal judgment ability. If only the overall psychopathy score is used in analyses, valuable information about the intricacies of the relationships between psychopathic traits and interpersonal judgment could be lost.

### **Relationships between Judgment Accuracy and Tendency, Psychopathic Traits and Narcissism**

Predictions about the relationships between narcissism and judgment accuracy and tendency for personality states and traits were mostly supported. In general, it was hypothesized that narcissism would show no relationship to judgment accuracy across a

variety of tasks, but that it may be related to judgment tendency for certain traits. As predicted, narcissism was not significantly related to overall judgment accuracy for personality traits or to individual trait accuracy, and the only significant relationship was with decreased judgment accuracy for females judging assertiveness. Similarly, narcissism was related to better overall memory, but was not related to memory for more or less vulnerable targets. Overall, narcissism showed few significant relationships with any type of judgment accuracy or tendency.

Despite the results largely supporting predictions regarding narcissism, NPI Total score did show some unexpected relationships with emotion judgment accuracy and tendency. In particular, narcissism was significantly related to increased fear judgment accuracy for females judging male targets, and to a decreased tendency for males to select fear in female targets. Any relationships with fear judgment were predicted to be found for psychopathic rather than narcissistic traits. Black (2013) found that narcissism was related to a tendency to see others more negatively, particularly as less open, conscientious, and extraverted, and more depressed. Thus, it is somewhat surprising that it was not strongly related to a similar rating tendency in the current study. However, these differences could be due to the types of traits being rated, as the Big 5 traits were not examined in the current study. The negative view that narcissists may have of others could be specific to those particular traits. As well, the NPI was not a very reliable measure of narcissism in females in the current sample, so relationships found with regards to narcissism in female judges may not necessarily be representative of the actual relationships between narcissism and judgment accuracy or tendency.

There were limited opportunities to compare the relative contributions of psychopathic traits and narcissism to judgment accuracy and tendency, as the two constructs were rarely found to be related to the same types of accuracy or tendency. However, narcissistic traits were more often related to decreased judgment accuracy than psychopathic traits, and were not related to vulnerability accuracy. Based on these results, it is clear that narcissism is a separate construct from psychopathy, and should be treated as such. Although narcissism is often a key feature of psychopathy, the constructs have different relationships to the ability to accurately judge others. Although both narcissism and psychopathy were related to viewing others in a negative light, the particular negative traits that individuals high in narcissism or psychopathy attributed to others also differed. This is consistent with the predicted outcomes. Although narcissism has been associated with a tendency to manipulate others, the quality of the manipulation is different. The driving force behind narcissistic manipulation is often to gain support for narcissistic beliefs rather than to take advantage of a vulnerable other for some external gain. Thus, narcissistic traits would not be expected to have the same associations with increased interpersonal judgment accuracy and tendency as psychopathic traits.

### **Overall Summary**

Overall, the findings from the current study showed limited support for many of the hypotheses around judgment accuracy, and showed stronger support for hypotheses around judgment tendency. Psychopathic traits were related to increased judgment accuracy for anxiety, and with increased judgment accuracy for empathy in female targets, but were unrelated to judgment accuracy for other traits and emotional states. However, psychopathic traits were related to a tendency to see others as being more

anxious and depressed, and as having lower self-esteem, which is consistent with the hypothesis that individuals who are higher in psychopathic traits tend to see everyone as possessing potentially vulnerable traits. In contrast to the hypothesis that Factor 1 traits would be most strongly associated with interpersonal judgment ability, all subscales of the SRP-4 were related to judgment accuracy and tendency, and Interpersonal Manipulation showed few significant relationships. The hypothesis that psychopathic traits would be associated with increased memory accuracy for more vulnerable individuals was supported, although individuals with psychopathic traits did not choose to associate with more vulnerable individuals. The hypothesis that psychopathic traits would be related to increased judgment accuracy for vulnerability was also supported, although this was mainly true for females judging male targets. In terms of emotion judgment accuracy and tendency, hypotheses were partially supported. Psychopathic traits were related to some enhanced emotion judgment abilities, although they were also related to decreased happiness judgment accuracy. Contrary to prediction, Factor 2 traits were not uniquely related to deficits, and Factor 1 traits were not uniquely related to enhancements. Psychopathic traits were related to judgment tendency for happiness and sadness, but not for any other emotions. Across all tasks, the relationships between psychopathic traits and judgment accuracy and tendency often differed depending on the sex of the judge and the sex of the target, indicating that these are important factors to consider when examining psychopathy and interpersonal judgment. Contrary to predictions, male and female judges sometimes showed different accuracy and tendency for the same traits. Finally, hypotheses related to narcissism and interpersonal judgment accuracy and tendency were generally supported. Narcissism showed few relationships



with interpersonal judgment accuracy or tendency, and was related to decreased judgment accuracy more often than psychopathic traits.

### **Strengths and Limitations**

Like all studies, the current study had several strengths and limitations, and it is important to note these when interpreting and attempting to generalize the results. A significant strength of the current study was the inclusion of multiple vulnerable traits. Previous studies have focused specifically on one trait or one type of vulnerability, so it was useful to be able to explore how psychopathic traits are related to interpersonal judgment across a variety of traits.

Another strength was that this is one of the first studies to examine the relationship between psychopathic traits and the ability to accurately judge microexpressions. Microexpressions are a social cue that people encounter every day without even being aware, and an enhanced ability to detect and interpret microexpressions could facilitate social interactions. In the case of psychopaths, this ability could provide clues as to how potential victims are truly feeling, thus guiding their manipulation attempts. Conversely, if individuals who are high in psychopathic traits tend to view emotions from a biased perspective, this could interfere with attempts at manipulation. It will be important to continue this avenue of investigation in future studies of psychopathy and emotion judgment.

This study was also one of few to examine relationships for males and females separately. Based on the current results, there appear to be some significant differences between males and females in terms of the manifestation of psychopathic traits. It is important to examine these differences so that we can gain a better understanding of how

psychopathy differs between the sexes, and what the implications of these differences might be for policy and practice, as well as in research settings. The results of the current study generally supported the notion that differences in males and females with psychopathic traits often appear to be the way in which a certain trait or ability is manifested, rather than differences between traits that one sex possesses and the other does not.

A limitation of the current study was that aside from empathy, vulnerability variables were selected based on a review of the victimization literature in general, rather than honing in on variables specific to victims of psychopaths. Unfortunately, an important piece of information that is currently missing from the literature is knowledge about which traits are viewed as desirable victim characteristics by individuals with psychopathic traits. It is unclear how and why psychopaths select certain individuals to become victims, and which qualities might make someone more attractive as a victim. This is likely a complex issue without a simple answer, but it is important to begin investigating this issue. Although the traits in the current study were selected for their association with victimization, it is possible that these traits are not directly related to victimization by psychopaths. There may be more relevant traits which were not included in the current study that would have produced more significant relationships. As well, different results might be possible if situational factors were included as measures of vulnerability (e.g., level of intoxication of a possible victim, location).

Another limitation was the use of an undergraduate sample. Although the results of the current study are informative to the literature, they cannot necessarily be generalized to other populations, and in particular, to offender populations. It is possible

that in a sample with higher levels of psychopathy, or with significant criminality (e.g., con men), different relationships between variables would have been found. In future, if using undergraduate samples for this type of research, it would be ideal to pre-screen participants and then choose those who score on the extreme ends of the spectrum of psychopathic traits, as well as some individuals who score in the middle if a more continuous picture is desired. A particular limitation of the current study was that the majority of participants were taking a psychology course at the time of the study, and demographic results showed that taking more psychology courses was related to decreased levels of psychopathic traits. Thus, a sample that included a wider variety of undergraduate students from different disciplines may have resulted in more individuals with increased levels of psychopathic traits, and could have uncovered more relationships between those traits and judgment accuracy and tendency.

In future, it would be interesting to look at individuals who score high on Interpersonal Manipulation but not on other psychopathic traits, and compare their judgment accuracy to individuals high in the other psychopathy facets. It is possible that few results were found in the current study with regard to Interpersonal Manipulation because the participants were too low in this particular psychopathic trait. Alternatively, it may be necessary to recruit true “con men” before the predicted relationships between high levels of Interpersonal Manipulation and increased judgment accuracy would occur.

### **Theoretical Implications**

As mentioned above, the results of the current study offered limited support for the notion that psychopathic traits are related to enhanced judgment accuracy for potentially vulnerable personality traits and emotional states in others. Although some

results were consistent with this hypothesis, notably for judgment of anxiety and empathy, general vulnerability, and microexpressions of disgust and sadness, other results did not support this hypothesis. Psychopathic traits were not significantly related to judgment accuracy for traits such as self-esteem, assertiveness, or depression, and showed few relationships with increased judgment accuracy for the vulnerability of others. They were also unrelated to judgment accuracy for fear and anger (in contrast to many studies which have found a fear deficit in psychopathic emotion processing). In support of an alternative hypothesis that psychopaths simply view everyone as being vulnerable regardless of their actual level of vulnerability to victimization, increased levels of psychopathic traits were related to a tendency to judge others as being more anxious and depressed, and having lower self-esteem. Psychopathic traits were also related to a decreased tendency select happiness as the emotion being expressed, and an increased tendency to identify emotional facial expressions as sadness. One could argue that seeing others as generally having low self-esteem, being anxious, depressed, and sad is a view of others as being vulnerable to being taken advantage of. In contrast, when asked to rate the vulnerability of various personality profiles, there were no relationships between psychopathic traits and a tendency to rate others as being more vulnerable. Overall, the results of the current study provide conflicting evidence for various theoretical positions.

The current conceptualization of psychopathy includes skilled interpersonal manipulation as a key trait. The notion of enhanced interpersonal judgment ability provides an explanation for why manipulation may be such a key aspect of psychopathy, and why individuals who are high in psychopathy are skilled manipulators. The next step

in the examination of this topic should be further exploration of how individuals who are high in psychopathic traits successfully manipulate others. When they select individuals to manipulate, how do they then proceed to interact with those individuals to exploit them for personal gain? Alternatively, the current study also provided support for the notion that individuals who are high in psychopathic traits tend to view others in general as possessing some vulnerable traits. If this is the case, then perhaps successful interpersonal manipulation is a result of simply attempting to manipulate everyone until a suitable target is found. The results of the current study suggest that it is important to further elucidate the interactions between psychopaths and others.

The current study also examined similarities and differences between males and females in terms of psychopathic traits and judgment ability. Based on a review of the literature, it is apparent that researchers have different ideas about whether psychopathy manifests differently in males and females. Some researchers have suggested that psychopathic traits are expressed differently in males and females, particularly with regards to types of aggression and methods of manipulation (e.g., Nicholls et al., 2005). The results of the current study suggest that, as predicted, differences between the sexes are more often a matter of degree than of kind. However, there were also some notable quantitative differences between males and females, primarily in the relationship between psychopathic traits and emotion judgment accuracy. For males, psychopathic traits were associated with increased judgment accuracy for disgust in both male and female targets, while for females, psychopathic traits were associated with increased judgment accuracy for sadness. The increased accuracy for sadness was particularly contradictory to past studies which have found a deficit in sadness judgment related to psychopathy (Blair et

al., 2001; Reidy et al., 2009). However, these studies have often used male samples, so a deficit in sadness accuracy may be only applicable to males high in psychopathy.

The results of the current study also suggest that it is important to differentiate between males and females when examining the construct of psychopathy, rather than simply combining them into a larger sample. Although there appear to be many similarities in the manifestation of psychopathic traits across the sexes, there are also some notable differences, and it is important to examine these further. Combining males and females into one sample could weaken or wash out effects, or alternatively, effects that are specific to one sex may be mistakenly attributed to psychopathy in general. For example, when examining vulnerability judgment accuracy for the overall sample, it appeared as though higher levels of psychopathic traits were associated with increased vulnerability accuracy. However, when results were separated by sex of judge and target, this was found to be true only for females judging male targets. As well, when examining judgment tendency, the pattern of judging individuals as possessing more vulnerable traits was present in the overall sample, but was only consistently present for male judges when broken down by sex of judge. Thus, theories of psychopathy and the relationships between psychopathic traits and other variables should always consider possible differences between males and females.

An additional theoretical application of the current study is its contribution to knowledge about subclinical psychopathy. Results from the current study were different than results found in clinical samples, but this may reflect actual differences in the way that psychopathy is manifested in non-clinical samples. Subclinical psychopaths are often viewed as simply scoring lower on measures of psychopathy than clinical samples, but

some researchers have begun to examine various traits that may differentiate subclinical from clinical psychopaths, and what may allow subclinical psychopaths to function in society without becoming involved with the justice system. Although much more work needs to be done to investigate this area, the results of the current study suggest that in an undergraduate sample, psychopathic traits may not have the same relationships to emotion judgment deficits as they do in clinical samples. If subclinical psychopaths have fewer deficits, and are actually better at judging certain emotions, this could help to facilitate their social interactions, and may make them more successful at manipulating others and remaining free in the community.

### **Clinical Implications**

In addition to the theoretical implications discussed above, the current study also has several clinical implications. Although the sample in the current study was non-clinical, these results, in combination with results from studies that have used clinical samples, can add some valuable information to the conceptualization of how psychopaths view and manipulate others. In particular, this knowledge could potentially impact the treatment of individuals scoring high on psychopathy. For example, if it is known that psychopaths tend to view others as more vulnerable in general, those cognitions can be targeted in therapy. As well, psychopaths could be encouraged to use any enhanced judgment skills for productive purposes, such as working in positions where these abilities would help their performance without hurting others. Knowledge of this tendency to judge and manipulate could also be targeted in discussions of relationships with significant others, and guide suggestions of how to improve interpersonal interactions. In addition, knowledge about the interpersonal judgment ability and

tendency of psychopaths could be translated to clinicians and others who work with psychopaths, as well as members of the public. If the potential victims of manipulation can be informed about the types of traits that psychopathic individuals may look for to take advantage of, then perhaps they can minimize their chances of victimization if they find themselves in the company of a charming and manipulative psychopath.

This information would be particularly useful for mental health professionals and others who may work with psychopaths in a professional capacity. If working in a forensic setting, these individuals would likely have confirmation via a psychopathy measure that the patient meets criteria for psychopathy or possesses psychopathic traits. Thus, they could engage in interactions with a psychopathic patient informed about various traits and emotional states that the patient may attempt to prey upon. Being prepared for such attempts at manipulation would make it less likely that professionals would get duped by a skilled manipulator. Even if professionals are unable to use that knowledge during their interactions with psychopathic individuals, it could be helpful for self-reflection on the interactions at a later time. The best defense that people can have against becoming victims of manipulation is to be informed about and prepared for the tactics that manipulative individuals may use in their attempts to achieve their aims.

### **Future Research**

There are many suggestions for future research that arise from the current study. Firstly, although there is some evidence that psychopathic traits are related to judgment accuracy and tendency for some potentially vulnerable traits and emotional states, this is only half of the story. Future research should examine the types of traits that make an individual particularly vulnerable in the eyes of a psychopath. Research to date, including



the current study, has focused on traits that have been linked to vulnerability in a variety of areas, including bullying and sexual assault, but to my knowledge no one has examined the specific traits that individuals with high levels of psychopathy view as vulnerable. Similarly, studies should examine situational factors that may increase vulnerability (e.g., being intoxicated, being alone instead of with friends) to see if these factors impact vulnerability judgments of psychopaths. In real-world situations, it is unlikely that there is a single trait that psychopaths hone in on to assess vulnerability. Rather, it is more likely that there are particular combinations of personality, emotional, and situational factors that make an individual more or less susceptible to manipulation in the eyes of a psychopath.

Another direction for future studies is to attempt to pursue more ecologically valid investigations of psychopathy and interpersonal judgment. The few studies that have examined this topic so far have been laboratory-based, although attempts have been made to create as much realism as possible (e.g., showing videotapes of real people talking as in the current study and Book et al., 2007; showing videotapes of real people walking while unaware of being videotaped, Book et al., 2013 and Wheeler et al., 2009). However, it would be interesting to take even more steps towards ecological validity. For example, researchers could observe individuals with varying levels of psychopathic traits interacting with others in social situations, and track whether they tend to associate with more vulnerable individuals, and how they interact with the individuals that they associate with. This would provide valuable information about the day-to-day interactions during which manipulation takes place, and how that manipulation may be accomplished successfully.

On a related note, it would be interesting to apply some of the findings from the interpersonal judgment literature and examine specifically how psychopaths interact with others. Research have found that some individuals who are more accurate judges of the personality traits of others actually interact in a way that elicits more relevant information about personality characteristics that make those traits easier to judge (Letzring, 2008). It is currently unknown whether psychopaths utilize this strategy, and it would be useful to further examine this notion to see how this might influence successful manipulation. It would be interesting to examine the methods that psychopaths use to manipulate others, and observe what types of reactions they can elicit from potential victims by using these techniques. If psychopaths are found to interact with others in a way that elicits more “judgeable” characteristics, it would also be interesting to investigate whether they do this consciously, or if it is simply the adaptive way that they typically interact with others.

Psychopathy and interpersonal judgment ability is an area of study that is rife with possibilities, and is as yet relatively unexplored. Researchers, as well as the psychopathy literature, would benefit from further investigations in this area.

### **Overall Conclusions**

Overall, the current study offered some support for the notion that psychopathic traits are related to increased judgment accuracy and specific judgment tendency for vulnerable personality traits and emotional states. Some relationships between increased judgment accuracy and increased levels of psychopathic traits were found, but these relationships depended on the particular traits and emotional states being examined. As well, although there were few relationships between psychopathic traits and decreased

judgment accuracy, there were many non-significant relationships. This was unexpectedly true even for traits that had shown increased judgment accuracy in relation to psychopathic traits in previous studies. Results also indicated a tendency to view others as more vulnerable in general. As predicted, psychopathic traits showed more relationships with judgment accuracy and tendency than narcissistic traits, indicating that these abilities are relatively unique to psychopathy.

The relationship between psychopathic traits and judgment accuracy and tendency also varied depending on the sex of the judge and the sex of the target. Although males and females sometimes showed similar patterns of interpersonal judgment, the specific traits that were related to accuracy often differed between the sexes. As well, there were several variables for which the relationship between psychopathic traits and judgment accuracy was significant for males but not for females and vice versa. This was most evident in the emotion judgment task, where psychopathic traits were related to judgment accuracy for different emotions for males and females. Thus, although differences between males and females were often differences of degree rather than of kind, there were some notable differences of kind, suggesting that perhaps psychopathic traits manifest differently in some instances for males and females.

The results of the current study provided a foundation for future research by exploring a variety of potentially vulnerable traits that can be examined more closely in future studies. As well, it appears as though individuals who are higher in psychopathic traits tend to see others as generally possessing certain vulnerable traits. Although more work needs to be done before drawing any definitive conclusions on this topic, particularly in populations with higher levels of psychopathic traits, it is clear that

individuals who are high in psychopathic traits see others differently, and sometimes more accurately, and may attempt to use that knowledge for their own personal gain.

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## Appendix A

### Rating Age and Attractiveness

Please circle your response to each item below.

1. a) How attractive is this person?

Not at all attractive   1      2      3      4      5      6      7      Very attractive  
Average

b) How old do you think this person is? \_\_\_\_\_ years

2. a) How attractive is this person?

Not at all attractive   1      2      3      4      5      6      7      Very attractive  
Average

b) How old do you think this person is? \_\_\_\_\_ years

3. a) How attractive is this person?

Not at all attractive   1      2      3      4      5      6      7      Very attractive  
Average

b) How old do you think this person is? \_\_\_\_\_ years

4. a) How attractive is this person?

Not at all attractive   1      2      3      4      5      6      7      Very attractive  
Average

b) How old do you think this person is? \_\_\_\_\_ years

## Appendix B

### Rating Personality Trait Descriptions

You will see two sets of personality trait descriptions. Please rate how similar you think they are below.

1. a) How similar are these two descriptions?

outgoing, committed, intelligent, artistic, considerate, organized, patient	sociable, thorough, inventive, bright, loyal, tolerant, unselfish
---	---

Not at all similar    1    2    3    4    5    6    7    Very similar

b) Could they be describing the same person (please circle)?    Yes    No

2. a) How similar are these two descriptions?

quiet, introspective, punctual, capable, reliable, frank, perceptive	prompt, dependable, shy, truthful, observant, proficient, reflective
--	--

Not at all similar    1    2    3    4    5    6    7    Very similar

b) Could they be describing the same person (please circle)?    Yes    No

3. a) How similar are these two descriptions?

giving, imaginative, kind, efficient, reliable, hardworking, sensible	levelheaded, inventive, caring, dependable, diligent, generous, capable
---	---

Not at all similar    1    2    3    4    5    6    7    Very similar

b) Could they be describing the same person (please circle)?    Yes    No

4. a) How similar are these two descriptions?

introverted, forgiving, intelligent, careful, realistic, quiet, generous	giving, forgiving, shy, practical, thorough, subdued, bright
--	--

Not at all similar    1    2    3    4    5    6    7    Very similar

b) Could they be describing the same person (please circle)?    Yes    No

5. a) How similar are these two descriptions?

warm, imaginative, efficient, realistic, introspective, forgiving	kind, pensive, capable, practical, creative, tolerant
--	--

Not at all similar    1    2    3    4    5    6    7    Very similar

b) Could they be describing the same person (please circle)?    Yes    No

**Below you will see a personality trait and a list of adjectives that might describe a person with that trait. Please circle the three adjectives that you think would describe that person the best. Also, please feel free to write in your own adjectives if you think of any that were not on the list.**

**1. Self-esteem (high or low)**

*self-worth   self-confidence   self-respect   self-image   self-regard   self-assurance*

Please list any adjectives that are not listed above:

---

**2. Empathy (high)**

*sympathetic   compassionate   feeling   concerned   kind   kindly   kindhearted*

*considerate   caring   gentle   benevolent*

Please list any adjectives that are not listed above:

---

**3. Empathy (low)**

*unsympathetic   hardhearted   callous   cruel   heartless   pitiless   cold   insensitive*

*uncaring   inhuman*

Please list any adjectives that are not listed above:

---

**4. Assertiveness (high)**

*self-confident   self-assured   confident   firm   forceful   forward   pushy   aggressive*

Please list any adjectives that are not listed above:

---

**5. Assertiveness (low)**

*nervous shy fearful timorous coy retiring hesitant apprehensive diffident  
tentative faint-hearted*

Please list any adjectives that are not listed above:

---

**6. Trusting (high)**

*gullible credulous unquestioning naïve innocent*

Please list any adjectives that are not listed above:

---

**7. Trusting (low)**

*doubtful distrustful mistrustful apprehensive wary disbelieving guarded chary  
skeptical doubting dubious leery*

Please list any adjectives that are not listed above:

---

**8. Anxiety (high)**

*nervous worried concerned uneasy apprehensive restless fretful fearful  
frightened*

Please list any adjectives that are not listed above:

---

**9. Anxiety (low)**

*tranquil calm comfortable stress-free hassle-free unperturbed peaceful  
undisturbed cozy laid-back untroubled*

Please list any adjectives that are not listed above:

---

**10. Depression (high)**

*miserable unhappy down in the dumps dejected low disheartened sad down  
glum despondent despairing hopeless melancholy*

Please list any adjectives that are not listed above:

---

**11. Depression (low)**

*content contented pleased glad joyful cheerful in high spirits blissful exultant  
ecstatic delighted cheery jovial on cloud nine*

Please list any adjectives that are not listed above:

---

## Appendix C

### Personality Profiles

#### Emily



- Age: 22
- Personality Traits:  
anxious, depressed,  
kind, pensive, capable,  
hardworking, creative,  
loyal

#### Elizabeth



- Age: 24
- Personality Traits:  
cheerful, calm, kind,  
imaginative, efficient,  
diligent, introspective,  
committed

## Appendix D

### Assessment of Personality Traits

Please circle your response to each item below. Use your judgment based on your impressions of each person from his or her video clip that you just watched. Please note, general descriptions of the traits are provided to help you make your decision. Someone does not have to match the description perfectly to be high in the trait.

#### VIDEO 1

**1. Please estimate this person's level of self-esteem** (*in general, how good he/she feels about him/herself, his/her level of self-acceptance and self-worth*):

Very low SE      1      2      3      4      5      6      7      Extremely high SE  
Average

**2. Please estimate how assertive this person is** (*in general, how good he/she is at making requests, actively disagreeing with others, expressing his/her rights and feelings, initiating, maintaining, or ending conversations, and standing up for him/herself respectfully*):

Not at all assertive      1      2      3      4      5      6      7      Extremely assertive  
Average

**3. Please estimate how anxious this person is** (*in general, how much he/she tends to worry about things and/or have physical feelings of anxiety like racing heart, feeling dizzy, etc.*):

Not at all anxious      1      2      3      4      5      6      7      Extremely anxious  
Average

**4. Please estimate how depressed this person is** (*in general, how much he/she tends to feel sad and hopeless and/or have physical feelings of depression like trouble sleeping, lacking energy, etc.*):

Not at all depressed      1      2      3      4      5      6      7      Extremely depressed  
Average

**5. Please estimate how empathic this person is** (*feels warmth, compassion, and concern for others*):

Not at all      1      2      3      4      5      6      7      Extremely  
Average

## Appendix E

### Memory Task

You just saw pictures and descriptions of 20 people. You will now be shown more pictures of people's faces, some that you saw before, and some that are new. Please indicate whether or not you recognize each face, and how confident you are in your decision.

1. **Have you seen this person before?**                      Yes                      No  
  
**How confident are you?**  
  
Not at all    1            2            3            4            5            6            7            Very confident
  
2. **Have you seen this person before?**                      Yes                      No  
  
**How confident are you?**  
  
Not at all    1            2            3            4            5            6            7            Very confident
  
3. **Have you seen this person before?**                      Yes                      No  
  
**How confident are you?**  
  
Not at all    1            2            3            4            5            6            7            Very confident
  
4. **Have you seen this person before?**                      Yes                      No  
  
**How confident are you?**  
  
Not at all    1            2            3            4            5            6            7            Very confident
  
5. **Have you seen this person before?**                      Yes                      No  
  
**How confident are you?**  
  
Not at all    1            2            3            4            5            6            7            Very confident



## Appendix F

### Affiliation Interest Task

You have been shown pictures and descriptions of people you do not know. Now, their pictures will be shown to you again two at a time. Based on your first impression from the pictures and descriptions, please choose who you would like to get to know better, how interested you are in getting to know them better, how attractive you think they are, and how similar they are to you.

1. a) Based on your first impression, who would you like to get to know better (circle)?

*Michael or Christopher*

b) Using the 7-point scale below, please rate how interested you are in getting to know each person better:

*Michael*

Not interested at all    1    2    3    4    5    6    7    Very interested

*Christopher*

Not interested at all    1    2    3    4    5    6    7    Very interested

c) Using the 7-point scale below, please rate how attractive each person is:

*Michael*

Not at all attractive    1    2    3    4    5    6    7    Very attractive

*Christopher*

Not at all attractive    1    2    3    4    5    6    7    Very attractive

d) Using the 7-point scale below, please rate how similar this person is to you:

*Michael*

Not at all similar    1    2    3    4    5    6    7    Very similar

*Christopher*

Not at all similar    1    2    3    4    5    6    7    Very similar

PLEASE GO TO THE NEXT SLIDE

## Appendix G

### Vulnerability Rating Task

Another aspect of judging personality is judging how vulnerable people are to being taken advantage of. For each of the people you have seen and read about, please indicate who is more vulnerable and how vulnerable you think each person is to being taken advantage of (e.g., how easy would it be for someone to make them or convince them to do something they don't want to do). Please note, we are not saying that you would actually take advantage of these people in real life.

1. a) If a manipulative person had to choose, who do you think he or she would have more luck in taking advantage of?

*Michael or Christopher*

b) How easy do you think it would be to take advantage of Michael?

Very easy    1    2    3    4    5    6    7    Very difficult

How easy do you think it would be to take advantage of Christopher?

Very easy    1    2    3    4    5    6    7    Very difficult

PLEASE GO TO THE NEXT SLIDE

2. a) If a manipulative person had to choose, who do you think he or she would have more luck in taking advantage of?

*Matthew or Joshua*

b) How easy do you think it would be to take advantage of Matthew?

Very easy    1    2    3    4    5    6    7    Very difficult

How easy do you think it would be to take advantage of Joshua?

Very easy    1    2    3    4    5    6    7    Very difficult

PLEASE GO TO THE NEXT SLIDE

## Appendix H

### Identifying Emotional Expressions Task

You are going to see some short video clips of people with neutral facial expressions. During each clip, an image of that same person making an emotional facial expression is going to pop up quickly. It will be one of five emotions: happiness, sadness, fear, anger, or disgust. For each clip, please identify which emotion was shown by circling it below.

1. The emotion shown in this clip was:

- a) happiness
- b) sadness
- c) fear
- d) anger
- e) disgust

2. The emotion shown in this clip was:

- a) happiness
- b) sadness
- c) fear
- d) anger
- e) disgust

3. The emotion shown in this clip was:

- a) happiness
- b) sadness
- c) fear
- d) anger
- e) disgust

**How hard was this task for you?**

Very hard      1      2      3      4      5      6      7      Very easy

**How well do you think you did?**

Very badly      1      2      3      4      5      6      7      Very well  
(almost all wrong)      (almost all right)

## Appendix I

### Significant Predictors from Non-Significant Models

Below are descriptions of variables that were significant independent predictors in the exploratory analyses broken down by sex of judge and sex of target, but whose overall regression models were not significant. These variables are listed for the interest of those who would like to pursue research on the relationships of psychopathic traits, judge and target sex, and narcissism, with interpersonal judgment ability.

#### Males Judging Female Targets

IPM was marginally significantly related to a tendency to judge female targets as being lower in empathy ( $\beta = -0.34, p = .040$ ),  $R^2 = .08, F(4, 61) = 1.33, p = .27$ .

#### Females Judging Male Targets

CA was a significant predictor of increased judgment accuracy for empathy ( $\beta = 0.36, p = .026$ ),  $R^2 = .08, F(4, 61) = 1.33, p = .268$ , and ELS was a significant predictor of increased judgment accuracy for assertiveness ( $\beta = 0.42, p = .011$ ),  $R^2 = .11, F(4, 61) = 1.85, p = .131$ .

#### Females Judging Female Targets

ELS was a significant predictor of increased judgment accuracy for anxiety ( $\beta = 0.38, p = .020$ ),  $R^2 = .10, F(4, 61) = 1.65, p = .174$ , and CT was a marginally significant predictor of increased judgment accuracy for empathy ( $\beta = 0.31, p = .027$ ),  $R^2 = .10, F(4, 60) = 1.63, p = .178$ .

## Appendix J

### **Rank Order Analyses of Personality Trait and Emotional State Judgment Accuracy**

The relationships between psychopathic traits, narcissism, and rank order accuracy were examined using correlation and regression. Prior to analysis, accuracy scores were calculated for each participant by coding the videotaped targets as being either low, moderate, or high on each of the vulnerable personality traits and states (these rankings were relative to the range of scores present in the videotaped targets rather than to any classification schemes on the measures themselves). Judges were then assigned a score of 0 for incorrectly classifying targets (e.g., rating a target as low or high when he or she was actually moderate on a trait) or 1 for correctly classifying targets (e.g., rating a target as high when he or she was high in a trait). Sums for each of the five traits and states were totaled for each judge, with a higher score indicating greater ranking accuracy. An overall accuracy score was also calculated, which summed rank order accuracy scores on self-esteem, assertiveness, empathy, and depression ratings (anxiety ratings were omitted due to recent evidence that anxiety may not be a suitable vulnerability variable; A. Book, personal communication, September 30, 2013). All accuracy scores were also calculated separately for male and female targets.

**Overall Rank Order Accuracy.** The relationships between psychopathic traits, narcissism, and overall trait and state rank order accuracy were examined by correlating SRP-4 scale scores and NPI Total with the overall rank order accuracy score. Results indicated that there were no significant relationships between psychopathic traits and overall accuracy or between narcissism and overall accuracy (all  $ps > .05$ ). This was also the case when analyses were broken down by sex of judge and sex of target.

**Individual Trait and State Rank Order Accuracy.** The relationships between psychopathic traits, narcissism, and individual trait and state rank order accuracy were examined by correlating SRP-4 scale scores and NPI Total with each individual trait and state rank order accuracy score. Results indicated that CA ( $r = -.19, p = .029$ ), CT ( $r = -.20, p = .025$ ), and SRP-4 Total ( $r = -.21, p = .015$ ) were significantly related to decreased rank order accuracy for depression. CT was also significantly related to decreased rank order accuracy for anxiety ( $r = -.21, p = .014$ ) and to increased rank order accuracy for self-esteem ( $r = .18, p = .042$ ).

Relationships between psychopathic traits and rank order accuracy were further examined through regression. ELS was a significant predictor of increased rank order accuracy for empathy ( $\beta = 0.49, p = .009$ ), and the interaction between ELS and judge sex was also a significant predictor ( $\beta = -0.40, p = .020$ ), although the overall model was not significant,  $R^2 = .08, F(1, 121) = 1.68, p = .159$ . This interaction was explored further by conducting separate regressions for male and female judges. Results revealed that ELS was a significant predictor of increased rank order empathy accuracy for male judges ( $\beta = 0.47, p = .012$ ), although the overall model was not significant,  $R^2 = .10, F(4, 60) = 1.70, p = .161$ . Trends indicated the opposite relationship between ELS and rank order empathy accuracy for female judges.

Narcissism was significantly related to decreased rank order accuracy for anxiety ( $r = -.20, p = .026$ ), and was also a significant predictor ( $\beta = -0.21, p = .021$ ),  $R^2 = .04, F(1, 128) = 5.43, p = .021$ .

**Exploratory Analyses: Rank Order Accuracy by Sex of Judge and Sex of Target.** The relationships between psychopathic traits, narcissism, and rank order

accuracy by sex of judge and sex of target were examined by correlating SRP-4 scale scores and NPI Total with rank order accuracy scores separately for male and females judging both male and female targets.

For male judges, both IPM ( $r = -.28, p = .023$ ) and SRP-4 Total ( $r = -.26, p = .036$ ) were significantly related to decreased rank order accuracy for depression in male targets. As well, ELS was significantly related to decreased rank order accuracy for anxiety in female targets ( $r = -.30, p = .014$ ). For female judges, CT was associated with decreased rank order accuracy for anxiety when judging male targets ( $r = -.31, p = .012$ ).

Regression analyses revealed some additional relationships between individual psychopathic traits and rank order accuracy based on both sex of judge and sex of target. For males judging female targets, ELS was a significant predictor of increased rank order empathy accuracy ( $\beta = 0.43, p = .023$ ), and decreased anxiety ranking accuracy ( $\beta = -0.44, p = .017$ ). The overall model predicting empathy accuracy was not significant,  $R^2 = .10, F(4,60) = 1.72, p = .157$ , and the model predicting anxiety accuracy was only marginally significant,  $R^2 = .13, F(4,60) = 2.14, p = .087$ . For females judging male targets, CA was a significant predictor of decreased accuracy for ranking assertiveness ( $\beta = -0.37, p = .019$ ),  $R^2 = .13, F(4,61) = 2.23, p = .076$ , while CT was a significant predictor of decreased accuracy for ranking anxiety ( $\beta = -0.39, p = .005$ ),  $R^2 = .13, F(4,61) = 2.20, p = .080$ .

Narcissism in male judges was associated with decreased rank order accuracy for both depression ( $r = -.26, p = .041$ ) and anxiety ( $r = -.29, p = .020$ ) in male targets. There were no significant relationships for males judging females or for female judges.

Regression analyses revealed that for female judges, a model including the four SRP-4 subscales and narcissism significantly predicted 18% of the variance in assertiveness rank order accuracy,  $R^2 = .18$ ,  $F(1,60) = 4.17$ ,  $p = .045$ . Narcissism was a marginally significant predictor of decreased assertiveness ranking accuracy ( $\beta = -0.26$ ,  $p = .045$ ).