Psychopathy:
Correlates of the MMPI-2-RF and PPI-R

Literature Review

Psychopaths are the social predators who charm and ruthlessly manipulate in order to do what they want and take what they please (Hare, 1999; Cleckley 1976). They consciously violate societal norms and expectations without a care, remorse, or sense of guilt (Hare, Hart, & Harper, 1991). They are comprised of such individuals as Ted Bundy, John Wayne Gacy, Richard Ramirez, and Jeffery Dahmer who performed unspeakable brutality with little to no provocation (Hare, 1999; Hare, 2003). Psychopaths lack of trepidation and tranquil calculated acts draw individuals to desperately ask “What makes them the way they are?”

The psychopathic personality is an important psychological construct that has developed over time, based on a range of symptoms, signs, and traits of a group of individuals (Cooke & Michie, 2001). Although the construct of psychopathy is not a diagnostic category, it has been seen throughout history through deviant behaviors that defy societal norms (Million, Simonsen, Birket-Smith, & Davis, 1998). This deviant behavior and personality type has been acknowledged through a variety of names throughout history, such as moral insanity, sociopath, manie sans delire, and unscrupulous man (Million et al., 1998; Cooke & Michie, 2001). Although the name and definition have been altered from time to time, psychopathy can be observed as a “constellation of interpersonal, affective, and lifestyle characteristics” (Hare, 1999, p 184).

Recent studies have begun to analyze the functionality of the MMPI-2 in assessing the construct of psychopathy. Despite the MMPI-2 ability to assess personality traits, current research suggests that the MMPI-2 does not capture all aspects of psychopathy (Sellbom, Ben-
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Porath, Lilienfeld, Patrick, Graham, 2005). It is speculated that the MMPI-2-RF may amend the previous instruments’ short-comings to more fully elucidate psychopathy traits (social and deviate characteristics). The proposed study is designed to address the empirical correlations and utility of the present MMPI-2-RF and recently reconstructed PPI-R. The aim of the study is to validate and build upon the previous research (Ben-Porath & Tellegen, 2008) by re-examining the Restructured Clinical scales (RC4, RC9, RC7, and RC2) and investigate the MMPI-2-RF fear scales (Behavioral-Restricting Fears & Multiple Specific Fears), High-Order Scale (Behavioral/Externalizing Dysfunction), Externalizing Scale (Juvenile Conduct Problems and Substance Abuse) and the Personality Psychopathology Five scales (Negative-Emotionality/Neuroticism-Revised & Introversion/Low Positive Emotionality-Revised). It was hypothesized that the RC scales 4 and 9 would be positively correlated with psychopathy while RC scales 7 and 2 would be negatively correlated with psychopathy as shown in previous research (Sellbom, Ben-Porath, & Graham, 2005). In addition, it was hypothesized that Behavior-Restricting Fears and Multiple Specific Fears scales would have negative correlation with psychopathy. In conjecture, the High-Order scale and the Externalizing scales would be positively correlated with psychopathy. In general, the Psychopathology Five Negative-Emotionality/Neuroticism-Revised and Introversion/Low Positive Emotionality-Revised scales will be negatively correlated with psychopathic factors while the Disconstraint-Revised will be positively correlated with psychopathic factors.

Method

To test the hypotheses, 151 participants were recruited from an undergraduate psychology class at an average sized Midwestern university. All study sessions were open to 25 people and lasted approximately one hour. Upon arriving, participants were given an informed
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consent form that provided them with details of the study. After consenting to partake, participants were asked to fill out a demographic form that provided information about their age, gender, ethnicity, year in school and past criminal history.

The MMPI-2-RF and PPI-R were administered. In order to control for order effects, counterbalancing was used with alternating assessments being administrated first. Following the completion of the instruments, participants were debriefed and provided with a debriefing form explaining the purpose of the study and additional contact information.

Measures

The Minnesota Multiphasic Personality Inventory-2-RF (MMPI-2-RF) is an extensive personality assessment that evaluates a number of major patterns of personality (behavior, cognitions, and motivations), psychological functioning/symptomatology, and personality characteristics (Ben-Porath & Tellegen, 2008). The assessment is based on 338 self-report questions derived from the original 567-item MMPI-2. The MMPI-2-RF assesses the same area of psychological functioning as its widely used predecessor (MMPI-2; Ben-Porath & Tellegen, 2008). The MMPI-2-RF consists of 50 scales, including, being organized into six set of scales including 8 Validity scales, 3 High Order (H-O) scales, 9 Restructured Clinical (RC) scales, 23 Specific Problem (SP) scales, 2 Interest scales, and 5 revised Psychopathy Five (PSY-5) scales. The MMPI-2-RF is derived from substantially longer inventory, the MMPI-2, which has been shown to be a valid and reliable instrument through extensive research, and is considered one of the most widely used psychometric tests (as cited in MMPI-2-RF; Ben-Porath & Tellegen, 2008 Manual). Furthermore, the MMPI-2 is considered one of the most widely used self-reporting measure of psychopathy (Lilienfeld & Widows, 2005).
The Psychopathy Personality Inventory Revised (PPI-R) is a self-report measure that identifies psychopathic personality construct by assessing psychopathic personality traits, attitudes, and behaviors in clinical and non-clinical populations (Lilienfeld & Widows, 2005). The measurement consists of 154 self-report items which are endorsed on a four-point Likert scale ranging from 1 (false) to 2 (true). These items are at a fourth-grade reading level and are suitable for individuals 18-86 years of age. On average, the duration of the PPI-R is 15-25 minutes and measures a continuum of global psychopathic personality factors. The total global psychopathy index is broken down into eight distinct dimensions (Lilienfeld & Widows, 2005) and is grouped into three main factors (Factor 1: Fearless Dominance, Factor 2: Self-Centered Impulsivity and Factor 3: Coldheartedness; Lilienfeld & Widows, 2005). In addition, the PPI-R contains three Validity Scales. The instrument has been found to be valid for both forensic and non-forensic populations and can be used in a variety of settings such as correctional facilities, forensic practice, substance abuse treatment centers, college students, nonclinical populations, and research.

General Data

Of the 151 participants that partook in this study, 37 were eliminated due to invalid data or incomplete data. Of the valid participants N = 114), PPI-R total scores ranged from 26 to 76 with a mean of 46.53 (SD = 10.94). 10 participants had PPI-R total scores that were considered in the psychopathic range. These individuals had a total PPI-R score ranged from 67 to 76 with a mean of 69.90. A slight majority of these individuals were male (male, N = 6; females, N = 4). The sample (34 males and 80 females) was composed of participants 18 years or older with a mean age of 19.32 (SD = 1.62). Females and males mean PPI-R total score were not considerably differ (females, M = 45.31, SD = 10.267; males, M = 49.38, SD = 12.06) but
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Gender differences were found on some of the MMPI-2-RF scales. The racial and ethnic composition consisted of mostly Caucasians (94.7%) but included Hispanic (.9%), Asian/Pacific Islander-American (1.8%), Native American Indian (.9%) and African-American (1.8%). The sample included freshman (67.5%), sophomores (20.2%), juniors (8.8%), and seniors (3.5%) in college. Of the 114 participants, 27 participants reported committing a crime. Of these participants that reported committing a crime, 7% were traffic violations/speeding tickets, 3.5% were theft, 2.6% were possession/possession of paraphernalia and illegal drugs, 2.6% minor in possession/underage drinking, 1.8% driving while intoxicated, 1.8% public intoxication, 1.8% vandalism, 0.9% trespassing/property damage, 0.9% driving with suspended license, and 0.9% assault.

Results

Bivariate correlations were conducted between PPI-R scales and MMPI-2-RF scales to analyze the relationships between the instruments. Several MMPI-2-RF scales were found to significantly correlate with PPI-R total score and PPI-R scales. These correlations support previous research conducted by Sellbom and colleagues (2005). In addition, it was found the new MMPI-2-RF scales to correlate significantly with the PPI-R. Refer to Table 1 for a summary of the correlations found between the PPI-R and MMPI-2-RF scales.

Scale results of the MMPI-2-RF and PPI-R

RC4. The present findings supported the hypothesis that RC4 would be positively correlated with Total score, RN, and ME. The results substantiated Sellbom and colleagues (2005) original findings conducted with the MMPI-2 and PPI. RC4 correlated well with psychopathic traits such as recklessness, lack of concern for social norms and manipulative attitude as measured by the PPI-R scales RN and ME. Interesting, RC4 only correlated with ME
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when PPI-R t-scores were representative of psychopathy (greater than 65). The supplemental analyses data showed the RC4 was also positively correlated with BE, CN, F and SOI. RC4 correlations with BE, CN and F support and are consistent with previous data (Sellbom et al., 2005). Unlike previous studies, SOI was weakly correlated with RC4 (Sellbom, et al., 2005). Although the correlation between RC4 and SOI was a weak correlation it was still significant and supports research that suggests RC4 is directly related to Factor 2 (Sellbom, et al., 2005).

RC 9. Consistent with previous research (Sellbom et al., 2005) RC9 was found to correlate with the PPI-R’s total score, ME, RN, F, and CN. Unlike previous research, RC9 was shown to have significant positive correlation with SOI. Past research has shown RC9 to be weakly correlated with other scales (e.g. Fearlessness and Stress Immunity) that load on the same Fearless Dominance factor as SOI (Sellbom et al., 2005) but RC9 has never been shown to be significantly correlated with SOI.

RC 7. Consistent with previous research (Sellbom et al., 2005) the data revealed that RC7 was positively correlated with BE and negatively correlated with STI and SOI. In addition, the data also showed RC7 to be slightly correlated with ME which supports previous findings (Sellbom et al., 2005), as well as RC7 to be strongly negatively correlated with STI when PPI-R total t-score exceeded 65 (indicative of psychopathy).

RC 2. The data confirmed RC2 to be negatively correlated with Total Score, SOI and STI which is supported by Sellbom and colleagues (2005). Contrary to previous research, RC2 was found to negatively correlate with F and was shown to have significant moderate relationship while past research has shown no correlation. The considerable difference in results could be due to RC2 loading on many other Fearless Dominance factors but this is unlikely. When evaluating scores that indicted psychopathic personalities, RC2 was shown to have a
significantly positive correlation with STI whereas the analysis conducted on non-psychopathic scores, showed this relationship to be negatively correlated.

**BRF and MSF.** The present findings found BRF and MSF fear scales were negatively correlated with STI and F and positively correlated with ME. Although the BRF and MSF have not been previously evaluated, the results were not unexpected due to previous research on psychopaths’ fear mechanisms. Past research has shown that psychopathic individuals have little to none fear response (Patrick & Berthot, 1995). It makes logical sense that psychopathic scales which measure fearlessness, lack of stress and overall psychopathic score would be negatively correlated with MMPI-2-RF scales that measure fear. BRF and MSF correlating with STI and F suggest that they load mostly on the Fearless Dominance Factor of psychopathy. BRF has also shown potential to evaluate the Self-Centered Impulsivity (Factor 1) of psychopathy by weakly correlating with ME.

**BXD.** As projected, the MMPI-2-RF BXD scale was positively correlated with the PPI-R’s Total Score, Rebellious Nonconformity and Machiavellian Egocentricity Scores. In addition to the Hypothesis Six, BXD was found to positively correlate with RN, ME, BE, F, and SOI.

**JCP and SUB.** The data showed the JCP and SUB were positively correlated with the Total Score, RN, ME, CN, BE and F. Furthermore SUB was found to positively correlate with STI and SOI. JCP and SUB were expected to associate with psychopathic characteristics due to measuring juvenile conduct and substance abuse problems that commonly occur with psychopathy (Patrick & Berthot, 1995). Both JCP and SUB cover Affective Interpersonal and Fearless Dominance factors of psychopathy. In addition, SUB was found to strongly correlate with the Total score and JCP was found to strongly correlate with ME supporting their
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usefulness in the evaluation of psychopathy. In the non-clinical college sample, JCP was found to correlate the most significantly with ME which differentiates in the psychopathic populations.

**NEGE-r.** Consistent with previous research the MMPI-2-Rf NEGE-r scale was negatively correlated with Stress Immunity and positively correlation with Blame Externalization, Machiavellian Egocentricity and Fearlessness (Sellbom et al., 2005). NEGE-r represents traits such as anxiety, insecurity and worry which are negatively correlated with the PPI-R scales which represents traits of lack of anxiety (STI), narcissistic (ME), fearless (F) and not to worry and blame others for one’s problems (BE).

**INTR-r.** The results showed that INTR-r was negatively correlated with SOI and Total Score but failed to show any significant correlations between INTR-r and CN. In previous research CN has been shown to be negatively weakly correlated with INTR-r (Sellbom et al., 2005). Unlike previous data (Sellbom et al., 2005), the current study supported a negative relationship between INTR-r and F in both non-clinical college students and college students who had a total t-score over 65 which is representative of psychopathic personality (Sellbom et al., 2005).

**DISC-r.** As anticipated, DISC-r was positively correlated with the PPI-R’s Total Score, Rebellious Nonconformity, Fearlessness, and Machiavellian Egocentricity scales was supported by the data. In addition to the hypothesis, DISC-r was shown to have a weak positive correlation with BE and SOI. Sellbom and colleagues (2005) analysis found a weak correlation between DISC and BE but failed to find a correlation between DISC and Social Potency.
Discussion

Overall the research results were similar to previous research (Sellbom et al., 2005). One significant difference among the results is SOI correlated with multiple MMPI-2-RF scales. This differs from previous research that has not found SOI to significantly or strongly correlate with MMPI-2 scales (Sellbom et al., 2005). The correlation of SOI with MMPI-2-RF scales is significant because it indicates a change between the original PPI’s SOI scale and the revised PPI-R’s SOI scale. The new MMPI-2-RF scales (BRF, MSF, BXD, JCP, SUB), also had noteworthy results. Several MMPI-2-RF scales correlated with multiple PPI-R scales and all three factors, including Coldheartedness which has not been previously examined. Although BRF and MSF were found to significantly correlate with PPI-R factors, interestingly these correlations were not as strong as expected. Past neurological research would indicate a significant correlation between lack of fear and psychopathy. These results could indicate there are different types of fear that psychopaths lack or have. The last notable result that was found is that individuals, who had a psychopathy PPI-R total score over 65, which indicates psychopathic personality, did not correlate with the same MMPI-2-RF scales as individuals who had a total PPI-R score under 65. This could indicate that individuals that have psychopathic characteristics and psychopaths are actually not on a continuum with each other and have different underlying characteristics.
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Conclusion

The principle purpose of the present study was to examine the extent to which a set of MMPI-2-RF scales could assess psychopathic traits. In addition to replicating previous studies, the investigation found several new MMPI-2-RF scales (BRF, MSF, BXD, JCP and SUB) that correlated with psychopathic traits as found on the PPI-R. Future research should continue to focus on investigating other scales on the MMPI-2-RF and replicating the present findings. Examination of the MMPI-2-RF could lead to addition scales that will assist in the study of the construct of psychopathy. In addition, psychopathy was found to be more categorical in nature due to its correlation with scales that were not seen to correlate with non-psychopathic populations. Implications of psychopathy’s categorical nature could lead to knowledge of the construct of psychopathy. These findings need to be replicated in order to build upon and confirm the present reported findings. Overall, this investigation indicated several scales on the MMPI-2-RF that are effective, valid and useful in their ability predict psychopathic traits in nonclinical samples as measured by the PPI-R. Future research should continue to investigate the MMPI-2-RF ability to assess the construct of psychopathy. The use of the MMPI-2 in assessing psychopathy could be advantageous to assessing prisoners during their intake process.
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References


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Appendix A

Table A1

## Correlations between MMPI-2-RF Scales and PPI-R Scales

<table>
<thead>
<tr>
<th>MMPI-2-RF</th>
<th>Total Score</th>
<th>RN</th>
<th>ME</th>
<th>BE</th>
<th>STI</th>
<th>SOI</th>
<th>F</th>
<th>CN</th>
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</thead>
<tbody>
<tr>
<td>RC2</td>
<td>-.21*</td>
<td>.00</td>
<td>-.01</td>
<td>-.06</td>
<td>-.32**</td>
<td>-.48</td>
<td>-.45**</td>
<td>.14</td>
</tr>
<tr>
<td>RC4</td>
<td>.62**</td>
<td>.57**</td>
<td>.52**</td>
<td>.40**</td>
<td>.15</td>
<td>.21*</td>
<td>.33**</td>
<td>.40**</td>
</tr>
<tr>
<td>RC7</td>
<td>-.07</td>
<td>.15</td>
<td>.33**</td>
<td>.37**</td>
<td>-.64**</td>
<td>-.34**</td>
<td>-.43**</td>
<td>.06</td>
</tr>
<tr>
<td>RC9</td>
<td>.62**</td>
<td>.64**</td>
<td>.56**</td>
<td>.50**</td>
<td>.01</td>
<td>.26**</td>
<td>.33**</td>
<td>.26**</td>
</tr>
<tr>
<td>BRF</td>
<td>-.10</td>
<td>-.01</td>
<td>.19*</td>
<td>.10</td>
<td>-.43**</td>
<td>.04</td>
<td>-.27**</td>
<td>.02</td>
</tr>
<tr>
<td>MSF</td>
<td>-.20*</td>
<td>-.18</td>
<td>.08</td>
<td>.06</td>
<td>-.31**</td>
<td>-.03</td>
<td>-.27**</td>
<td>-.17</td>
</tr>
<tr>
<td>BXD</td>
<td>.64**</td>
<td>.62**</td>
<td>.53**</td>
<td>.41**</td>
<td>.12</td>
<td>.28**</td>
<td>.35**</td>
<td>.33**</td>
</tr>
<tr>
<td>JCP</td>
<td>.51**</td>
<td>.48**</td>
<td>.50**</td>
<td>.30**</td>
<td>.06</td>
<td>.15</td>
<td>.26**</td>
<td>.25**</td>
</tr>
<tr>
<td>SUB</td>
<td>.61**</td>
<td>.46**</td>
<td>.48**</td>
<td>.42**</td>
<td>.20*</td>
<td>.31**</td>
<td>.37**</td>
<td>.36**</td>
</tr>
<tr>
<td>NEGE-r</td>
<td>-.07</td>
<td>.15</td>
<td>.74**</td>
<td>.28**</td>
<td>-.67**</td>
<td>-.17</td>
<td>-.35**</td>
<td>.02</td>
</tr>
<tr>
<td>INTR-r</td>
<td>-.31**</td>
<td>-.20*</td>
<td>-.10</td>
<td>-.19*</td>
<td>-.12</td>
<td>-.43**</td>
<td>-.42**</td>
<td>-.09</td>
</tr>
<tr>
<td>DISC-r</td>
<td>.67**</td>
<td>.63**</td>
<td>.48**</td>
<td>.39**</td>
<td>.18</td>
<td>.28**</td>
<td>.42**</td>
<td>.38**</td>
</tr>
</tbody>
</table>

**Note.** N= 114. MMPI–2-RF = Minnesota Multiphasic Personality Inventory–2-Restructured Form; PPI-R = Psychopathic Personality Inventory-Revised; RC = Restructured Clinical Scale; RC2 = Low Positive Emotions; RC4 = Antisocial Behavior; RC7 = Dysfunctional Negative Emotions; RC9 = Hypomanic Activation; BRF = Behavior-Restricting Fear; MSF = Multiple Specific Fears; BXD = Behavior/Externalizing Dysfunction; JCP = Juvenile Conduct Problems; SUB = Substance Abuse; NEGE-r = Neuroticism/Negative Emotionality-Revised; INTR-r = Introversion/Low Positive Emotionality-Revised; DISC-r = Disconstraint-Revised; RN = Rebellious Nonconformity; ME = Machiavellian Egocentricity; BE = Blame Externalization; STI = Stress Immunity; SOI = Social Influence; F = Fearlessness and CN = Carefree Nonplanfulness.

**Correlation is significant at the .01 level;**

*Correlation is significant at the .05 level*