Examining the Levenson Self Report Psychopathy Scale using a Graded Response Model

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A B S T R A C T

The current study examined gender differences on the Levenson Self-Report Psychopathy Scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995), a self-report measure of psychopathic personality traits, in an undergraduate sample using a Graded Response Model. Results demonstrated that some items on the LSRP are not contributing to the total score of the LSRP and could be removed. Additionally, differential item functioning demonstrated that items are endorsed differently by gender. Specifically, males endorsed items suggesting proneness to boredom and impulsivity, as well as “active” characteristics of psychopathy. This suggests that males with psychopathic characteristics actively seek out individuals to harm. However, females endorsed more “passive” items, suggesting a propensity to manipulate individuals with whom they come into contact, rather than seeking out individuals to harm.

1. Introduction

Psychopathic individuals possess a dearth of basic prosocial personality traits such as empathy, guilt, and perspective-taking and exhibit glibness, superficial charm, grandiosity, deception, and the tendency to manipulate others (e.g., Hare, 2003; Lykken, 1995; Marcus, John, & Edens, 2004; Poythress & Skeem, 2006). They reportedly have little depth of emotion (Hare, 2003), deficient emotional processing (Lorenz & Newman, 2002), and deficits in fear-potentiated startle response (Patrick, 1994). Guiltlessness, dishonesty, antisocial behavior, and failure to form close emotional bonds are often included in definitions of psychopathy (Hare, 2003). Psychopathic traits have primarily been studied in male samples; therefore, it is often assumed that the male expression of psychopathy can be superimposed on females. Because of this, potential gender differences have largely been ignored (Forouzan & Cooke, 2005). The current study attempts to address this deficit in the literature by examining gender differences in a popular self-report measure of psychopathic traits, the Levenson Self-Report Psychopathy Scale (LSRP; Levenson et al., 1995). Understanding gender differences in psychopathic characteristics could have several implications. If males and females demonstrate psychopathic characteristics differently, this could suggest that there is a need for different psychopathy measures and diagnostic criteria by gender.

1.1. Gender differences in psychopathic traits

Several studies have reported clear gender differences in the prevalence of psychopathic traits, such that psychopathy is more common among males than females across populations (e.g., undergraduates, substance abusers, civil psychiatric patients, forensic psychiatric patients, and offenders/inmates; Nicholls, Ogloff, Brink, Psych, & Spidel, 2005) and measures (Cale & Lilienfeld, 2002; Forth, Brown, Hart, & Hare, 1996; Levenson et al., 1995; Wilson, Frick, & Clements, 1999; Zagon & Jackson, 1994), including the LSRP, Psychopathy Checklist-Revised (PCL-R; Hare, 2003), Psychopathy Checklist: Short Version (PCL:SV; Hart, Cox, & Hare, 1995), and Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996). The base rate of psychopathy ranges from 9% to 23% in females and 15–30% for males in offender samples (Vitale, Smith, Brinkley, & Newman, 2002). Based on these differences, some authors have suggested that it would be useful to refine the cut scores on psychopathy measures to apply specifically to females (Cale & Lilienfeld, 2002; Forth et al., 1996; Levenson et al., 1995; Vitale et al., 2002; Wilson et al., 1999; Zagon & Jackson, 1994).

Gender differences in prevalence rates could be the result of several different factors including sampling bias, gender bias in diagnostic criteria, and differential presentation (Dolan & Vollm, 2009). It is unknown whether these differences are qualitative or quantitative; females may possess the same underlying characteristics of psychopathy and express them differently or psychopathic characteristics may differ by gender. The interpersonal symptoms are influenced by culture and gender, such that they are commonly seen in males but are only present in females when they possess a
severe number of symptoms (Cooke, Michie, Hart, & Clark, 2005; Forouzan & Cooke, 2005). Psychopathic characteristics demonstrated by females are related to extraversion, agreeableness, guilt, lying, deceitfulness, and lack of control, whereas psychopathic characteristics demonstrated by males are related to externalizing behaviors, risky driving, antisocial and aggressive behaviors, and criminality (Blonigen, Carlson, Hicks, Krueger, & Iacono, 2008; Lee & Salekin, 2010; Strand & Belfrage, 2005).

1.2. Levenson Self Report Psychopathy Scale

The PCL-R is generally considered to be the gold standard for assessing psychopathy (Skeem & Cooke, 2010); however, its development on a criminal population and reliance on corroborating file data make it inappropriate for use in non-incarcerated samples (Hare, 1991). Other measures have been developed that assess psychopathic personality traits without relying on criminal behavior. One such measure, the LSRP (Levenson et al., 1995), is based on the PCL-R and validated on a college population. It measures information about antisocial behaviors more typical of community life which makes it more appropriate for use in college populations. A recent study using an undergraduate sample found intercept bias, indicating that similar scores by gender on the LSRP could have different implications for males and females (Marion & Sellbom, 2011).

Initially, a two-factor model of the PCL-R was validated, in which Factor 1 was related to affective/interpersonal deficits, and Factor 2 was related to an antisocial, impulsive lifestyle (Hare, 1991, 2003). The two factors of the LSRP were designed to measure the PCL-R factors (Levenson et al., 1995). It is comprised of primary psychopathy (LSRP1: 10 items) and secondary psychopathy (LSRP2: 16 items). Research findings have provided some support for the two-factor structure of the LSRP (Brinkley, Schmitt, Smith, & Newman, 2001; Levenson et al., 1995; Lynam, Whiteside, & Jones, 1999). However, recent findings have shown that a two-factor model did not fit the data well (Brinkley, Diamond, Magaletta, & Heigel, 2008) and have provided support for a three-factor model of psychopathy, as measured by the PCL-R and LSRP (Brinkley et al., 2008; Patrick, Fowles, & Krueger, 2009; Sellbom, 2010). The three factors that were identified were Egocentric (manipulative interpersonal style), Antisocial (impulsive and antisocial lifestyle), and Callous (callous predatory approach to life). These findings are similar to Cooke and Michie's (2001) proposed three-factor structure for the PCL-R that was conducted using a sample of female inmates.

1.3. Current Study

The current study sought to examine gender difference on the LSRP using a Graded Response Model. Psychopathy appears to be a dimensional construct (e.g., Marcus et al., 2004), and it has been argued that studying individuals lower on the continuum of psychopathy is desirable as the effects of confounding variables typical in samples higher on the continuum can be ruled out (e.g., drug use, the acute effects of incarceration; Lilienfeld, 1994). Thus, the following hypotheses were investigated in a college sample:

1. Previous research has demonstrated that females demonstrate psychopathic characteristics related to extraversion, agreeableness, guilt, lying, deceitfulness, and lack of control. Conversely, males demonstrate psychopathic characteristics related to externalizing behaviors, risky driving, antisocial and aggressive behaviors, and criminality. As such, we hypothesize that males will endorse items related to externalizing behaviors and aggression.

2. Additionally, we hypothesize that females will endorse items related to manipulation, deceitfulness, and lying.

2. Methods

2.1. Participants

Participants were male and female students enrolled in an introductory psychology class at a large southeastern public university. The LSRP was administered as part of a mass screening procedure. Each student received course credit for participation and signed an informed consent from prior to the study. The protocol was approved by the university’s Institutional Review Board. Thousand-five-hundred sixteen individuals (58.9% female) participated. Age ranged from 17 to 46 (M = 18.68, SD = 1.8). Ages were similar by gender (female mean age = 18.48, SD = 1.65; male age = 18.97, SD = 2.13). The racial composition of the sample was 75% (n = 1136) White, 10% (n = 152) Black, 3.8% (n = 57) Asian, 0.7% (n = 11) American Indian, and 0.5% (n = 8) native Hawaiian. One-hundred fifty-one (10%) participants declined to identify with a race.

2.2. Measures

Levenson Self Report Psychopathy Scale (LSRP; Levenson et al., 1995). The LSRP is a 26-item self-report measure of psychopathy. Using a Likert-style format, item responses range from 1 ("strongly disagree") to 4 ("strongly agree"). Seven items are reverse-scored to control for response style and social desirability (Levenson et al., 1995). Two correlated subscales have been derived from factor analyses. Primary psychopathy (LSRP1) assesses a callous and unmotional personality style and a tendency to manipulate others (e.g., "Success is based on the survival of the fittest; I am not concerned about the losers"). Secondary psychopathy (LSRP2) measures impulsive antisociality (e.g., "When I get in trouble, I often ‘let off steam’ by blowing my top"). Research has shown that LSRP1 is somewhat more reliable (α = .82) than LSRP2 (α = .63). Table 1 contains descriptive, reliability, and distribution information for the current study. Results of the ANOVA indicate that when analyzed by each gender individually, as well as the total sample, LSRP1 is more reliable than LSRP2.

2.3. Data analytic procedure

Due to the fact that items of the LSRP had four categories, a Graded Response Model was used for the analyses (Samejima, 1969). A Graded Response Model is an item response theory model that is used with polytomous categories. In this model, items are not constrained or fixed and are instead allowed to vary naturally. Model fit was estimated using the maximum likelihood estimation procedure with robust standard error provided by Mplus (Version 5.0; Muthen & Muthen, 1998–2007). The analyses used differential item functioning (DIF) to clarify item invariance in the LSRP items. A test item is considered invariant when it has the same relationship to the latent variable across groups (Embretson & Reise, 2000). Thus, DIF is said to occur when an item does not have the same relationship to the latent variable across groups. DIF is displayed in an item when the probability of endorsing a specific item depends on both the individual’s level of psychopathy and his or her gender. In the present study, DIF was examined between males and females. The equation used in the current study is essentially a logistic regression using the item as the dependent variable and the construct (theta score) and gender as the independent variables. If gender is significant over and above the overall construct, it indicates that DIF is present. In order to detect DIF, males served as the focal group (coded 1) and females served as the reference
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