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Psychometric properties of Basic Empathy Scale among female juvenile delinquents and school youths☆,☆☆

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ABSTRACT

Research on empathy often distinguishes between affective and cognitive empathy, but there is limited knowledge regarding the application or measurement of these two dimensions of empathy among female youth, especially forensic samples of female youth. The main aim of the present study was to examine the psychometric properties of the Basic Empathy Scale (BES) among a Portuguese sample of female youths ($N = 377$), composed of incarcerated female juvenile offenders ($n = 103$) and school youths ($n = 274$). The two-factor structure of the BES obtained a good fit among the school sample, but the fit among the forensic sample was poor. Both samples demonstrated adequate psychometric properties in terms of Cronbach's alpha, omega coefficient, mean inter-item correlations, corrected item-total correlation range, and criterion validity. However, some caution is advised when using the BES with female youth involved in the juvenile justice system, particularly with incarcerated female youth.

1. Introduction

Due to its complexity, empathy has been defined in a variety of a ways. From a developmental standpoint, empathy is typically defined as an affective response or arousal that is derived from understanding another's emotional state or feelings in a particular situation (Eisenberg, Shea, Carlo, & Knight, 1991). These and other common definitions of empathy emphasize the affective components. However, it is widely accepted that empathy includes both affective and cognitive components that differ in their developmental trajectories, each exerting various influences on empathic behavior (Ang & Goh, 2010; Baron-Cohen & Wheelwright, 2004; Davis, 1980; Decety & Jackson, 2004; Eisenberg & Eggum, 2009). In general, affective features are typically defined as arousal to or resonation and congruence with another's emotional state (Blair, 2005; Hoffman, 1987; Singer & Lamm, 2009). In contrast, cognitive empathy is often considered synonymous with perspective taking abilities, such as being able to imagine or take the perspective of another in order to understand what they may be feeling (Davis, 1980, 1983; Decety, 2010).

In general, empathy is believed to play an important role in social cognition and prosocial behavior (Decety, 2010). For instance, empathy is thought to be important in the inhibition of aggression and promotion of prosocial behavior (Eisenberg & Eggum, 2009). To this end, shared negative arousal between individuals often results in distress, and serves as a signal that activates empathic concern and thus promotes prosocial behavior. When this shared arousal is absent, there is no motivation to act in order to decrease any discomfort promoted by the negative arousal (Decety & Michalska, 2010). So for those individuals who do not experience this arousal or distress, they may continue to engage in antisocial or aggressive behavior as they cannot understand or experience the distress they may be afflicting on others (Jolliffe & Farrington, 2006).

1.1. Development of the Basic Empathy Scale

Given the relevance of empathy in understanding antisocial or aggressive behavior, it is important to have an adequate measure that captures the multidimensionality of empathy. A measure that can capture both affective and cognitive components of empathy may be especially useful since cognitive empathy may demonstrate a stronger association with offending behavior (van Langen, Wissink, van Vugt, Van der

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Stouwe, & Stams, 2014). Over the years, a variety of self-report measures of empathy have been developed including, but not limited to, the Hogan Empathy Scale (HES; Hogan, 1969), the Questionnaire Measure of Emotional Empathy (QMEE; Mehrabian & Epstein, 1972), and more recently the Interpersonal Reactivity Index (IRI; Davis, 1980). However, these measures of empathy have several noted limitations. They often equate sympathy with empathy, are not designed to or do not adequately capture the cognitive component of empathy, and the validation of many of these measures has mainly relied on university samples (Jolliffe & Farrington, 2006). This third limitation is especially important as validation within university samples may have resulted in the creation of measures that fail to capture the components of empathy that may be most relevant to antisocial or offending behaviors or generalizable to an adolescent population.

Thus, in an attempt to address the limitations of previous instruments, Jolliffe and Farrington (2006) developed the Basic Empathy Scale (BES). They validated a 20-item BES scale in a mixed gender adolescent sample of high school students in England, finding strong support for a two factor structure (cognitive and affective empathy) as well as adequate construct validity with the BES demonstrating expected associations with other measures of empathy or personality constructs such as conscientiousness or agreeableness (Jolliffe & Farrington, 2006). Since that time, the BES has been validated in a wide variety of mixed gender school and community samples from France (D'Ambrosio, Olivier, Didon, & Besche, 2009), Italy (Albiero, Matricardi, Speltri, & Toso, 2009), and China (Geng, Xia, & Qin, 2012). Confirmatory factor analyses across these studies consistently supports the two factor structure of the BES with internal consistencies across samples ranging from $\alpha = 0.66$–0.81 and 0.73–0.85 for cognitive and affective factors respectively. In addition, across these different cultures, the BES scales demonstrate the expected positive associations with other empathy scales (Albiero et al., 2009; D'Ambrosio et al., 2009), and measures of prosocial behaviors (Albiero et al., 2009; Geng et al., 2012) and show negative associations with measures of internalizing disorders (D'Ambrosio et al., 2009) or emotional problems (Geng et al., 2012). More recently, a Portuguese 16-item adapted version of the BES has been validated in a large community sample of adolescents, with four items having to be removed in order to achieve an acceptable two-factor measurement model (Anastacio, Vagos, Nobre-Lima, Rijo, & Jolliffe, 2016).

However, when the BES has been studied among high risk or delinquent samples of youth, this measure does not always conform to the original two factor structure. For instance, in a mixed gender sample of high risk Hispanic youth involved in gangs, results supported a two factor, 7-item adapted BES scale that excluded negatively worded items in order to achieve a better fit to the data (Salas-Wright, Olate, & Vaughn, 2012). Using a sample of male Portuguese juvenile offenders, Pechorro, Ray, Salas-Wright, Maroco, and Gonçalves (2015) found support for both the original 20-item version of the BES as well as the adapted 7-item BES produced by Salas-Wright et al. (2012). Despite research validating the BES in high risk samples of males, no one has examined the psychometric properties among incarcerated female youth. Given the broad literature base suggesting empathy differences between males and females as well as the increasing rates of aggression and violence among female adolescents over the last two decades (Moretti, Catchpole, & Odgers, 2005; Tracy, Kempf-Leonard, & Abramoske-James, 2009), it is important to explore whether the BES appropriately captures the underlying components of empathy in an incarcerated female adolescent sample.

1.2. Gender Differences in Empathy and Antisocial Outcomes

Gender differences in empathy are apparent from a very early age. For example, at ages 3 to 4 months, females are able to discriminate facial expressions better than their male counterparts as evidenced by their responses to maternal still-face paradigms (McClure, 2000). In addition, throughout childhood and adolescence, females tend to demonstrate higher levels of empathy and corresponding prosocial behavior (for review see Chaplin & Aldao, 2013). The transition into adolescence, especially around puberty, widens the gender gap even further between males and females (Lam, Solmeyer, & McHale, 2012) suggesting this may be an important period for empathy development. Notably, these gender differences in empathy appear to be developmentally stable throughout the lifespan (Michalska, Kinzler, & Decety, 2013) with females consistently demonstrating higher levels of empathy than males and individuals who demonstrate higher levels of empathy earlier on in development continue to remain higher in empathy throughout development (Eisenberg et al., 1999).

This well-established gender difference in levels of empathy and associated prosocial behavior between males and females has been cited by criminologists and psychologists to help explain why males engage in criminal offenses, especially violent offenses, at higher rates than females and also have higher rates of recidivism (Broidy, Cauffman, Espelage, Mazerolle, & Piquero, 2003; Katsiyannis, Zhang, Barrett, & Flaska, 2004). However, while males have a substantially higher prevalence rate of antisocial behavior than females (Lahey et al., 2000; Moffitt & Caspi, 2001; Rutter, Giller, & Hagell, 1998), rates have been increasing in the past years for women (e.g., Tracy et al., 2009). This is in part due to the field acknowledging that there may be differences in phenotypic expressions of antisocial behavior between males and females. For example, females may be more likely to evidence their aggression towards family members or be aggressive in the home (Robbins, Monahan, & Silver, 2003) and may also be more likely to use manipulative behavior in their criminal acts, while men are more likely to engage in aggressive behavior that results in more violent crimes (Forouzan & Cooke, 2005). In addition, there is evidence to suggest that female youth who engage in delinquent or antisocial behavior experience more disparate outcomes, such as persistently high rates of comorbid psychological symptoms, increased instance of substance dependence, poor quality of romantic relationships, and physically abusive relationships (Moffitt, Caspi, Rutter, & Silva, 2001; Pajer, 1998; Schnittker & John, 2007). For example, Moffitt et al. (2001) found among those female youth in a community sample diagnosed with Conduct Disorder (CD), 72% also met criteria for a depressive or anxiety disorder diagnosis between the ages of 11 to 21. High comorbidity rates are also present in incarcerated samples, where female youth may have higher rates of almost all diagnoses including affective, anxiety, and substance dependence diagnoses (Karnik et al., 2009). In addition, the effects of juvenile delinquency for females carries over into their role as mothers evidenced by increased use of substances during pregnancy and raising children who are more physically aggressive (Tzoumakis, Lussier, & Corrado, 2012). Taken together, there is strong evidence for gender differences in empathy as well as antisocial behavior and its associated outcomes. Thus, it is important to determine whether empathy, as measured by the BES, can be validly assessed in female populations, particularly those that exhibit higher forms of antisocial or aggressive behavior.

Consistent with extant research showing clear differences in empathic behavior between males and females, previous validation studies of the BES have also demonstrated that females tend to score higher in empathy, with effect sizes being more pronounced for the affective empathy component (Albiero et al., 2009; Anastacio et al., 2016; D'Ambrosio et al., 2009; Geng et al., 2012; Jolliffe & Farrington, 2006; Salas-Wright et al., 2012) and no differences have been found between males and females in the factor structure of the BES. However, while past research has only examined the psychometric properties of the BES in community samples or small sub-samples of high risk female adolescents (e.g., Salas-Wright et al., 2012), there has yet to be an examination of the BES in a detained sample of female adolescents.

1.3. Current Study

The aim of the present study is to examine the psychometric properties of the BES, extending its cross-cultural application among a