



Validation of the Buss–Perry Aggression Questionnaire–Short Form among Portuguese juvenile delinquents



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ABSTRACT

The aim of the present study was to validate the Buss–Perry Aggression Questionnaire–Short Form (BPAQ-SF) among Portuguese juvenile delinquents. With a total sample of 237 male participants, subdivided into an incarcerated forensic sample ($n = 192$) and a community sample ($n = 45$), the Portuguese version of the BPAQ-SF demonstrated good psychometric properties in terms of factor structure, internal consistency, convergent validity, discriminant validity, predictive validity and known-groups validity that generally justify its use among Portuguese youth. Statistically significant associations were found with drug use and alcohol abuse.

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1. Introduction

Aggression is an important risk factor for various forms of antisocial behavior including delinquency and conduct problems, but research has uncovered considerable heterogeneity characterizing the aggression construct (Cima & Raine, 2009). The study of aggression may take different perspectives, focusing on its aims or functions or assessing its various types of manifestations. Some classifications systems of aggression have referred to physical versus verbal aggression (e.g., Buss, 1961), direct versus indirect aggression (e.g., Little, Jones, Henrich, & Hawley, 2003), proactive versus reactive aggression (e.g., Anderson & Bushman, 2002), or instrumental versus impulsive aggression (e.g., Berkowitz, 1993). None of the multiple attempts proposing a taxonomic model valid for aggression have been entirely successful because a comprehensive classification integrating all types of aggression is still to be universally adopted (Parrott & Giancola, 2007).

Historically, one of the definitions more widely accepted in the scientific community is that of Buss (1961), who stated that aggression is a response that brings a harmful effect in another organism. Buss and Perry (1992) developed the Aggression Questionnaire (AQ), often referred to as the Buss–Perry Aggression Questionnaire (BPAQ), which has become one of the most popular self-report questionnaires – if not the most popular – for the measurement of aggression since its publication (Morren & Meesters, 2002; Vigil-Colet, Lorenzo-Seva, Codorniu-Raga, & Morales, 2005). In their work, Buss and Perry (1992) revised the original seven-factor Buss–Durkee Hostility Inventory (BDHI): some items were

reworded or omitted and new ones were incorporated, leading to an initial pool of 52 items; 5-point Likert-type scale items replaced the true–false response. They conducted exploratory and confirmatory factor analyses on three separate samples of undergraduate students that led to the empirically derived 29 item four-factor (Physical Aggression, Verbal Aggression, Hostility, and Anger) measure of aggression. The authors reported that their measure had good internal consistency, adequate stability over time, good convergent validity and good discriminant validity.

Although the majority of research using the BPAQ has been conducted in English-speaking populations, there is a growing body of research in other cultures. The BPAQ has been translated into several languages, including: Chinese (Maxwell, 2007), Croatian (Mejovsek, Budanovac, & Sucur, 2000), Dutch (Meesters, Muris, Bosma, Schouten, & Beuving, 1996), French (Nahama, Ayoub, Borie, & Petit, 2003), German (Von Collani & Werner, 2005), Italian (Fossati, Maffei, Acquarini, & Di Ceglie, 2003), Japanese (Nakano, 2001), Portuguese (Cunha & Gonçalves, 2012; Simões, 1993), Russian (Ruchkin & Eisemann, 2000), Slovak (Lovas & Trenkova, 1996), Spanish (Andreu, Peña, & Graña, 2002; Santisteban, Alvarado, & Recio, 2007), and Swedish (Prochazka & Agren, 2001).

Despite its popularity and the fact it has been widely used in the study of aggression, a number of studies have encountered difficulties when attempting to replicate the original factor structure of the AQ. Some studies reported that the four-factor structure had a poor fit (e.g., Archer, Kilpatrick, & Bramwell, 1995; Harris, 1997; Williams, Boyd, Cascardi, & Poythress, 1996). Other studies found it was possible to obtain a better fit after some items were removed (Harris, 1995; Meesters et al., 1996; Nakano, 2001). Bryant and Smith's (2001) investigation indicated that the four-factor structure of the BPAQ did not explain enough common variance (i.e., about 80%) and lacked the

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specificity required of this type of instrument to serve as a measurement model. Using confirmatory factor analysis (CFA) they found that Buss and Perry's original four-factor model achieved only mediocre fit in their three samples (Goodness of Fit Index [GFI] = .76–.81; χ^2/df = 2.4–2.8).

This state of affairs inspired Bryant and Smith (2001) to develop a reduced version of the BPAQ using five independent data sets. These authors removed all the items that loaded less than .40 or had crossed loadings (i.e., more than .40 in two or more components). This produced a shortened questionnaire consisting of three items for each factor. This modification resulted in a good fit to the four-factor model in several samples and explained an acceptable proportion of variance in both absolute and relative terms (GFI = .94). The reliabilities of the refined factors were corrected for differences in the number of constituent items (adjusted α 's = .88–.92) using the Spearman–Brown prophecy formula, and were considered good. The data also provided strong support for the convergent and discriminant validity of the refined Physical Aggression, Anger, and Hostility factors, while the Verbal Aggression factor, showed poor discriminant validity. The authors concluded that their 12-item refined version (often referred to as BPAQ-SF) demonstrated superior psychometric properties in its overall goodness-of-fit to the data, yet still retained the conceptual framework originally proposed.

The BPAQ and its short forms (Bryant & Smith, 2001; Buss & Perry, 1992; Buss & Warren, 2000) have proven their value in studying aggression profiles and predicting violent behavior in adults (e.g., Bushman & Wells, 1998; Diamond & Magaletta, 2006; Diamond, Wang, & Buffington-Vollum, 2005), while the same cannot be said about adolescents and preadolescents. The trajectory of developmental aggression (e.g., low, persistent or desisting aggression) among youth (e.g. Collishaw, Maughan, Goodman, & Pickles, 2004; Martino, Ellickson, Klein, McCaffrey, & Edelen, 2008), from late childhood through adolescence, needs valid measurement. The adaptation of the BPAQ-SF to youth within this age range would be very useful in terms of obtaining a short and valid measurement of the aggression trait. The main aim of the present study is to validate a Portuguese version of the Buss–Perry Aggression Questionnaire-Short Form (BPAQ-SF; Bryant & Smith, 2001) so as to further the investigation of aggression among juvenile delinquents and community youths in Portugal and Portuguese speaking countries.

2. Method

2.1. Participants

The forensic sample was recruited from inmates of eight national juvenile detention centers managed by the Portuguese Ministry of Justice. A total sample of 237 male participants (age range = 13–18 years; mean age = 16.61 years; SD = 1.49 years), subdivided into a forensic sample (n = 192; age range = 13–18 years; mean age = 16.62 years; SD = 1.52 years) and a community sample (n = 45; age range = 13–18 years; mean age = 16.56 years; SD = 1.25 years), agreed to voluntarily participate in the study.

The forensic and community participants statistically differed on some moderator variables. The forensic sample had more ethnic minorities participants (χ^2 = 36.262, p ≤ .001), fewer participants from urban areas (χ^2 = 61.739, p ≤ .001), fewer years of education (t = 17.785, p ≤ .001), lower parental socio-economic status (χ^2 = 21.464, p ≤ .001), more divorced or deceased parents (χ^2 = 63.763, p ≤ .001), and more siblings/half-siblings (t = −3.655, p ≤ .001). The forensic and community participant samples did not differ in a statistically significant manner either by age or nationality.

2.2. Measures

The Buss–Perry Aggression Questionnaire (BPAQ; Buss & Perry, 1992) is a four-factor model questionnaire consisting of 29 items scored

on a 5-point Likert scale (from Extremely uncharacteristic of me = 1 to Extremely characteristic of me = 5) that provides a global measure of aggression and four subscales: Physical Aggression (PA, 9 items), Verbal Aggression (VA, 5 items), Anger (A, 7 items), and Hostility (H, 8 items). The Buss–Perry Aggression Questionnaire-Short Form (BPAQ-SF; Bryant & Smith, 2001) is a “refined” version of the AQ consisting of 12 Likert-type items rated on a 6-point ordinal scale. The BPAQ-SF is also organized into four scales: Physical Aggression (PA, 3 items), Verbal Aggression (VA, items), Anger (A, 3 items), and Hostility (H, 3 items). Bryant and Smith (2001) decided to change the original 5-point scale to a 6-point scale to eliminate the scale's midpoint and force respondents to decide whether each statement was characteristic of them. Our Portuguese version consisted of Likert-type items rated on a 5-point ordinal scale (Never = 0 to Always = 4), restoring the scale's mid-point which was eliminated in Bryant and Smith's version, because five response alternatives with a neutral point seem to be more adequate in the context of cross-cultural comparisons and the reliability of a personality measurement instrument does not vary significantly when one response category is reduced (Gallardo-Pujol, Kramp, García-Forero, Pérez-Ramírez, & Andrés-Pueyo, 2006).

The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1989) is a brief self-report measure that evaluates self-esteem in adolescents and adults. The RSES can be scored by simply adding the ten items on a 4-point ordinal scale (Strongly Disagree = 0, Disagree = 1, Agree = 2, Strongly Agree = 3) after reverse scoring designated items (namely, items 2, 5, 6, 8 and 9). Higher scores indicate higher levels of self-esteem. A Portuguese version of the RSES was used (Pechorro, 2011). Pechorro, Marôco, Poiares, and Vieira (2011) found psychometric properties that justify the use of the RSES with Portuguese adolescent community and forensic populations, namely, in terms of internal consistency (Cronbach's α = .79), unidimensional factor structure (35.55% of variance), temporal stability (r_s = .86; p ≤ .01), known-groups validity (Λ Wilks = .961; χ^2 = 29.806; p ≤ .001), discriminant validity (r = .10; ns), corrected item–total correlation (range = .27–.62.) and average inter-item correlation (.27). Internal consistency for the present study, estimated by Cronbach's alpha, was .77.

The Reactive–Proactive Aggression Questionnaire (RPQ; Raine et al., 2006) is a self-report measure that distinguishes between reactive and proactive aggression. The scale consists of 23 items rated on a 3-point ordinal scale (Never = 0, Sometimes = 1, Often = 2). A total of 11 items assess reactive aggression (e.g., “Reacted angrily when provoked by others”) and 12 items assess proactive aggression (e.g., “Hurt others to win a game”). Summed scores provide a measures of reactive or proactive aggression, as well as total aggression. Higher scores indicate higher levels of aggression. The RPQ is appropriate for use with youth in late adolescence and young adults. Internal consistency for adolescents has previously been reported as .86 for proactive aggression, .84 for reactive aggression, and .90 for total aggression (Raine et al., 2006). The Portuguese form of the RPQ was used (Pechorro, Ray, Raine, Maroco, & Gonçalves, in press) in this study. The internal consistency for the present study, estimated by Cronbach's alpha, was as follows: RPQ Reactive = .81; RPQ Proactive = .83; RPQ Total = .86.

In addition, a questionnaire was constructed to describe the socio-demographic and criminal characteristics of the participants and to analyze the possible moderating effect of these variables. This questionnaire included variables such as participants' age, nationality, ethnic group, origin (rural vs. urban), level of schooling completed, socioeconomic status, parental marital status, number of siblings/half-siblings, previous use of physical violence, drug use and alcohol abuse. Socioeconomic status was measured by considering both parental level of education and profession, appropriate to the Portuguese reality (Simões, 1994).

2.3. Procedures

Appropriate procedures were followed during the translation and retroversion (Hambleton, Merenda, & Spielberger, 2005) of the

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