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Comparison of impulsiveness, venturesomeness and empathy (I₇) structure in English and Spanish samples: Analysis of different structural equation models

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Abstract

The present study analyzed the factorial structure of the I₇ Impulsiveness questionnaire (Impulsiveness, Venturesomeness and Empathy) with a Spanish sample of 742 males and 1.075 females, through exploratory and confirmatory factorial analysis. In relation to the original English data, a three-factor structure showed global congruency coefficients of 0.92 and 0.94 for men and women. Venturesomeness had a modest congruency for males (0.83). A cross-validation analytical strategy showed that the 24-item I₇ was invariant only for the female sample. A subsequent exploratory factor analysis with 24 items showed a sound factor structure. The 24-item version showed the best and most robust structure and similar internal consistency coefficients in regard to the 54-item version. No important differences were founded between I₇ long and short versions with impulsiveness scales of ZKPQ, BIS-10 and SPSRQ.
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1. Introduction

Eysenck and Eysenck (1978) created a 63-item questionnaire to measure three primary personality traits: Impulsiveness, Venturesomeness and Empathy. Using principal component analysis, three factors were extracted with oblique rotation for male and female respondents, and the items of the three factors corresponded to the hypothesized traits. Impulsiveness and Venturesomeness showed acceptable alpha coefficients (around 0.80), although Empathy only showed a modest alpha of 0.65 and 0.64, for both men and women, respectively. Another version adapted for children was published (Eysenck & Eysenck, 1980) but the definitive version for adults was eventually published by Eysenck, Pearson, Easting, and Allsopp (1985). This questionnaire was included in the Eysenck Personality Scales manual (EPS adult), together with the EPQ-R and the EPQ-RS (Eysenck & Eysenck, 1991).

The ultimate adult I_7 Impulsiveness questionnaire (Impulsiveness, Venturesomeness and Empathy) version includes 54 items distributed in three scales of 19, 16 and 19 items (Impulsiveness, Venturesomeness and Empathy), respectively. The authors present factorial matrices obtained by principal component analysis with a direct oblimin rotation, for men and women. The reliability alpha of the Venturesomeness and Empathy scales improved slightly in relation to the previous study by Eysenck and Eysenck (1978), although the Empathy scale did not reach the 0.70 value in either gender. The correlation coefficients among the three scales were also similar to those obtained with the 63-item version.

The I_7 has been translated and adapted to languages other than English, such as Dutch (Lijffijt, Caci, & Kenemans, 2005; Zimmermann, Rossier, & Stadelhofen, 2004), French (Caci, Nadalet, Bayllé, Robert, & Boyer, 2003), German (Eysenck, Daum, Schugens, & Diehl, 1990), and Spanish (Luengo, Carrillo-De-La-Pena, & Otero, 1991). The results of these studies have been recently analyzed by Lijffijt et al. (2005). The exploratory factorial analyses show a fine structure for the Impulsiveness and Venturesomeness factors, and the cross-cultural congruency coefficients of consistency are better for these scales than Empathy. Nevertheless, the EFA demonstrates that many items have rather low loadings on their corresponding factor. In the original study, Eysenck et al. (1985) included a certain number of items with factor loadings lower than 0.30 (8 for men and 11 women). Also, in the EFA conducted by Caci et al. (2003), several items obtained low factor loadings (11 items for men and 8 items for women), while other items had higher secondary loads on other factors. This phenomenon was also found in the EFA's presented by Zimmermann et al. (2004) and by Lijffijt et al. (2005). In our opinion, the identification and elimination of these items would provide more consistency to the factors and, moreover, the I_7 contains redundant items that should also be deleted. This evidence might suggest that the I_7 items should be revised and selected using empirical procedures that combine exploratory and confirmatory factorial analysis (CFA).

The aim of this study was twofold: (a) to compare the I_7 exploratory factorial structure in a large sample of the general population and university students in Spain with the exploratory factorial structure obtained by Eysenck et al. (1985) in England; (b) to obtain a shorter and valid version of the I_7, with a robust factor structure and acceptable reliability.