

Psychometric properties of the Peters et al Delusions Inventory 21 in college students

Eduardo Fonseca-Pedrero^{a,c,*}, Mercedes Paino^{b,c}, Marta Santarén-Rosell^a,
Serafin Lemos-Giráldez^{b,c}, José Muñiz^{b,c}

^aDepartment of Educational Sciences, University of La Rioja, Spain

^bDepartment of Psychology, University of Oviedo, Spain

^cCenter for Biomedical Research in the Mental Health Network (CIBERSAM), Spain

Abstract

Delusions show high prevalence in the general population and can be considered a risk marker for psychotic disorders. Although the assessment of these experiences has made considerable progress in recent years, there is still room for improvement in the measurement quality of the self-reports available for such assessment. The goal of the present work was to analyze the measurement quality of the Peters et al Delusions Inventory 21 (PDI-21) in Spanish college students. The final sample was made up of 660 participants (29.5% men) with a mean age of 20.3 years (SD, 2.6 years). The results revealed that a high percentage of the sample reported some symptom of paranoia. Analysis of the internal structure of the PDI-21 by means of exploratory factor analysis based on the tetrachoric correlation matrix yielded an essentially unidimensional solution. Cronbach α for the total score was .91. Scores on the PDI-21 correlated in a statistically significant fashion with trait and state anxiety and negative affect. These results provide new evidence of the validity of the PDI-21 and endorse its use as a measurement instrument for assessing the extended psychosis phenotype in nonclinical population.

© 2012 Elsevier Inc. All rights reserved.

1. Introduction

Delusions are a central feature in the diagnosis of psychotic disorders [1]. Delusional beliefs are not circumscribed to the clinical population but can be found in the general population below the clinical psychosis phenotype [2]. Nuevo et al [3], in a study carried out with a sample of 256 445 people from 52 countries, found the prevalence of delusions of control in nonclinical population to be 4.8%, whereas the figure for delusions of reference and persecution was 8.4%. A recent meta-analysis by van Os et al [2] indicated a mean prevalence of such subclinical psychotic experiences of 5.3%. Psychotic-like experiences (PLEs) are a risk marker for psychotic disorders. Independent longitudinal studies show that the presence of subclinical symptoms in adolescents and young adults increases future risk of

developing a schizophrenia-spectrum disorder [4–7]. In this sense, subclinical psychotic symptoms may represent the behavioral expression of liability for psychotic disorder in the general population. Furthermore, PLEs have been associated with the same risk factors as those found in patients with psychosis, such as being younger, lower educational level, unemployed, or lower income [2]. These subclinical experiences also have a clear impact on health [3] and have been shown to correlate with several psychopathologic factors, including anxiety, depressive symptoms, and/or affective dysregulation [8–12].

A wide range of self-report instruments has been developed for assessing the extended psychosis phenotype and specifically for the assessment of paranoia [13–15]. Peters et al [16] constructed a 40-item self-report for evaluating the presence of paranoia in the general population, which they called the Peters et al Delusions Inventory. It was subsequently reduced to 21 items (PDI-21) [13]. This brief version of the Peters et al Delusions Inventory has been used in various epidemiological studies [17,18]. Likewise, its metric properties have been analyzed in previous works. Peters et al [13] conducted a principal components

* Corresponding author. University of La Rioja C/ Luis de Ulloa, s/n, Edificio VIVES; C.P. 26002, Logroño, La Rioja, Spain. Tel.: +34 941 299 309; fax: +34 941 299 333.

E-mail address: eduardo.fonseca.pedrero@gmail.com
(E. Fonseca-Pedrero).

analysis (PCA) ($n = 444$) with a forced 1-component solution of the PDI-21. Loadings on this single factor ranged from 0.31 to 0.63, and the discrimination indices were high. These data were interpreted by the authors as evidence for the adequacy of a unidimensional scoring system. Earlier, Verdoux et al [19] had analyzed the PDI-21 in a sample of 444 nonpsychiatric patients by means of PCA (Pearson correlation matrix and Varimax rotation). They found a factorial solution with 7 components (persecution, thought disturbances, grandiosity, religiosity, paranormal beliefs, ideas of reference, and apocalyptic ideas) that explained 55.3% of the total variance but did not report the internal consistency levels of either the total score or the components. Similarly, López-Ilundain et al [20] administered a Spanish adaptation of the PDI-21 to a sample of 365 healthy individuals. The analysis of internal structure of the PDI-21, carried out by means of PCA (Pearson correlation matrix and Varimax rotation), revealed the presence of 7 components (paranoid, experiences of influence, grandiosity, religiousness, magic thinking, referential, and depressive), explaining 53.7% of the total variance. Cronbach α coefficient for total score was .75. Jones and Fernyhough [21] also analyzed the metric quality of the PDI-21 in a sample of 493 college students in the UK. The exploratory factor analysis (principal axis factoring and oblique rotation) conducted on PDI-21 scores yielded a 3-factor solution (delusional beliefs/thought disturbances, religiosity/religiousness, and delusions of reference/guilt-suspicion) that explained 34.1% of the total variance. Cronbach α for the total score was .77, with values of .69, .80, and .55 for the 3 factors, respectively.

As can be seen, few psychometric studies have been conducted with the PDI-21, and the results are still contradictory. Internal consistency levels are close to 0.70 and, in some cases, are not reported. Moreover, they do not take into account the categorical nature of the PDI-21's response system, and this may affect estimations of reliability [22]. As regards the internal structure, most analyses use PCA based on Pearson correlations. From a psychometric point of view and given the dichotomous nature of the data, it is necessary to use the tetrachoric correlation matrix. Using the Pearson correlation matrix for categorical data can affect the estimated factor loadings, the factorial solution, and the selection of spurious factors due to statistical artifacts [23,24]. Likewise, on attempting to analyze the underlying dimensional structure in which the resulting factors have a clear psychologic interpretation, it is better to use exploratory factor analysis rather than PCA [25,26]. The limitations mentioned underline the need for new research including a more in-depth analysis of the psychometric quality of the PDI-21. It is relevant to have reliable tools that provide a sound basis for decisions about the selection of at-risk participants or the study of the psychosis phenotype at a nonclinical level.

Within this research context, the main purpose of the present study was to examine the measurement quality of the PDI-21 [13] in a sample of Spanish college students. To

this end, we analyzed rates of delusional experiences reported by the participants, examined the internal structure based on the tetrachoric correlation matrix of the PDI-21, estimated its reliability, analyzed the differential item functioning (DIF) according to participants' sex, and obtained sources of validity evidence in relation to other variables that measure state and trait anxiety as well as positive and negative affects. This allows us not only to determine the psychometric properties of the PDI-21 in a new sample of the population in an age group at risk for psychosis but also to understand the phenotypic expression of paranoia and its relationship with different emotional variables at a subclinical level.

2. Methods

2.1. Participants

Participants in the study were 660 university students from different degree courses at the University of Oviedo: Education, Criminology, Psychology, Medicine, Speech Therapy, IT, Economics, and Physiotherapy. The sample, recruited by means of incidental sampling, was made up of 195 men (29.5%) and 465 women (70.5%). Mean age of the participants was 20.3 years (SD, 2.6 years), with a range of 17 to 30 years. Mean years of education was 16.8 years (SD, 2.3 years). As regards marital status, 81.6% were single, 16.2% were married, 0.6% were divorced, and 1.7% did not report their status. With regard to employment situation, 86.6% were not working, 12.6% were working, and 1.2% failed to report their employment status.

2.1. Instruments

2.1.1. *Peters et al Delusions Inventory 21* [13]

The PDI-21 is a self-report designed for assessing delusional symptoms in the general population. It comprises a total of 21 items with dichotomous response format (yes/no). Total score is the sum of positive responses on each item, giving a maximum score of 21 points. The higher the score, the greater the delusional symptoms or paranoia proneness is. Likewise, for each one of the items, there are 3 subscales that measure degree of conviction, preoccupation, and distress. On these 3 subscales, the scoring system is Likert type with 5 categories (1-5). Previous studies indicate that the PDI-21 is a tool with adequate measurement quality as regards internal consistency, test-retest reliability, and different sources of validity evidence [8,13,21]. In the present work, we used the Spanish version of the PDI-21, which yielded a Cronbach α for the total score of .75 [20].

2.1.2. *State-Trait Anxiety Inventory* [27]

The State-Trait Anxiety Inventory (STAI) is a 40-item self-report designed to assess 2 independent anxiety concepts: anxiety as a state (transitory emotional condition) and anxiety as a trait (relatively stable propensity for anxiety). Each scale is made up of a total of 20 items with 4-point

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات