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Internal structure and reliability of the Oviedo Schizotypy Assessment Questionnaire (ESQUIZO-Q)[1]

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ABSTRACT. Schizotypy is a psychological construct whose aim is the early detection of participants at a heightened theoretical risk of transiting toward a psychotic disorder in the future. The early detection of these "at risk" individuals requires using adequate measurement instruments that allow us to make solid and well-founded decisions based on score profiles. The main purpose of this instrumental study was to analyze the internal structure and reliability of the Oviedo Schizotypy Assessment Questionnaire (ESQUIZO-Q) in adolescents. The final sample was composed of a total of 1,438 participants, 693 males (48.2%), with a mean age of 15.9 years (SD = 1.2). The analysis of the underlying internal structure of the ESQUIZO-Q revealed a three-factor solution specified in the following components: *Reality distortion*, *Anhedonia*, and *Interpersonal disorganization*. The levels of internal consistency for the subscales ranged from .61 to .80. The results showed that the ESQUIZO-Q is a self-report with adequate psychometric properties for the assessment of schizotypy and that can be used as a screening method for the detection of adolescents at high risk for psychosis. Future studies should explore in more depth the psychometric properties of the ESQUIZO-Q as well as the development of computerized-adaptive versions.

KEYWORDS. Schizotypy. ESQUIZO-Q. Schizotypal personality. Psychosis proneness. Instrumental study.

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RESUMEN. La esquizotipia es un constructo psicológico que tiene como finalidad la detección precoz de participantes con un mayor riesgo teórico de transitar hacia un trastorno psicótico en el futuro. La detección de este tipo de individuos "de riesgo" pasa por disponer de adecuados instrumentos de medida que nos permitan tomar decisiones sólidas y fundadas a partir de su pefil de puntuaciones. El principal objetivo de este estudio instrumental fue analizar la estructura interna y la fiabilidad del Cuestionario Oviedo para la Evaluación de la Esquizotipia (ESQUIZO-Q) en adolescentes. La muestra final la conformaron un total de 1,438 participantes, 693 varones (48,2%), con una edad media de 15,9 años (*DT* = 1,2). El análisis de la estructura interna subyacente al ESQUIZO-Q arrojó una solución tridimensional, concretada en los componentes: *Distorsión de la realidad*, *Anhedonia* y *Desorganización interpersonal*. Los niveles de consistencia interna para las subescalas oscilaron entre 0,61 y 0,80. Los resultados mostraron que el ESQUIZO-Q es un autoinforme con un adecuado comportamiento psicométrico para la evaluación de la esquizotipia y que podría ser por tanto utilizado como método de *screening* para la detección de adolescentes de riesgo de psicosis. Futuros estudios deberían seguir examinando las propiedades métricas del ESQUIZO-Q así como construir una versión adaptativa computerizada.

PALABRAS CLAVE. Esquizotipia. ESQUIZO-Q. Personalidad esquizotípica. Propensión a la psicosis. Estudio instrumental.

Schizophrenia is a serious and devastating mental disorder characterized by symptoms such as hallucinatory experiences, delusional ideation, disorganized speech and behavior, which usually has its onset during late adolescence or early adulthood and that has a direct impact on the lives of individuals (American Psychiatric Association 2000; van Os and Kapur, 2009). A current line of research in the field is based on early detection, prevention and intervention in individuals at risk for psychosis with the aim of mitigating or reducing the impact the disorder can cause on the personal, family and social spheres (Vallina, Lemos Giráldez, and Fernández, 2006). This fact has propeled, among other aspects, the construction and validation of measurement instruments for the assessment of schizotypy, or more generically, psychosis proneness (Álvarez-López, Gutiérrez Maldonado, and Pueyo, 2006; Fonseca-Pedrero *et al.*, 2008).

The aim of the "psychometric high risk" paradigm is the detection, by means of self-reports and based on their score profiles, of those participants with a higher theoretical risk of transiting toward a psychotic disorder in the future (Lenzenweger, 2010). This method allows, in combination with other methods (*e.g.*, genetic high risk), the analysis of possible etiopathogenic mechanisms that are at the basis of these types of disorders (Kwapil, Barrantes Vidal, and Silvia, 2008). Moreover, it allows the study of symptoms that

are similar to those found in patients with schizophrenia while avoiding the confounding effects frequently found in these individuals (*e.g.*, medication or stigmatization). The cornerstone of this research paradigm is founded on data from predictive validity analyses. Independent longitudinal studies indicate that individuals from the general population who report schizotypal experiences such as magical thinking, hallucinatory experiences, delusional ideation and/or anhedonia have a greater risk of transiting toward schizophrenia-spectrum disorders (Chapman, Chapman, Raulin, and Eckblad, 1994; Dominguez, Wichers, Lieb, Wittchen, and van Os, in press; Gooding, Tallent and Matts, 2005; Poulton *et al.*, 2000; Welham *et al.*, 2009). In this regard, schizotypy could be considered an exophenotypic risk marker for schizophrenia (Raine, 2006) or a behavioral expression of liability for psychosis (van Os, Linscott, Myin-Germeys, Delespaul, and Krabbendam, 2009).

The detection of these type of individuals at risk for psychosis, whether in clinical or educational settings, requires having adequate measurement instruments that allow us to make solid and well-founded decisions based on the data. Among the most used instruments in the literature for the asessment of this construct in adult populations we find the Wisconsin Schizotypy Scales (Chapman, Chapman, and Kwapil, 1995) and the Schizotypal Personality Questionnaire (SPQ) (Raine, 1991). Likewise, and given that adolescence is a developmental period of special risk for schizophrenia-spectrum disorders, efforts have also been directed at the assessment of psychosis proneness in this age group. A good example of this self-reports are: the Junior Schizotypy Scales (JSS) (Rawlings and MacFarlane, 1994), the Schizotypy Traits Questionnaire (STA) for children (Cyhlarova and Claridge, 2005), and the Oviedo Schizotypy Assessment Questionnaire (ESQUIZO-Q) (Fonseca-Pedrero, Muñiz, Lemos-Giráldez, Paino, and Villazón-García, 2010). Regarding the last mentioned, the ESQUIZO-Q, it is a brief and easy measurement instrument specifically designed for the assessment of schizotypal traits in adolescents. The construction and validation of the ESQUIZO-Q was carried out including the advances in psychological and educational measurement (*e.g.*, differential item functioning) in a sample of 1,683 Spanish adolescents. The results showed that the ESQUIZO-Q presented adequate psychometric properties. The levels of internal consistency for the 10 subscales that comprised it ranged from .62 to .90. The analysis of the internal structure revealed a three-factor solution similar to that found with other

self-reports (*e.g.*, SPQ) (Bora and Arabaci, 2009; Fonseca-Pedrero, Lemos-Giráldez, Paino, Villazón-García and Muñiz, 2009; Fonseca-Pedrero, Paino, Lemos-Giráldez, Villazón-García *et al.*, 2009; Fossati, Raine, Carretta, Leonardi, and Maffei, 2003; Kwapil *et al.*, 2008; Wuthrich and Bates, 2006), specified in three general dimensions named: *Reality distortion* (*Unusual perceptual experiences*, *Paranoid ideation*, *Magical thinking* and *Ideas of reference*), *Negative* (*Physical anhedonia* and *Social anhedonia*) and *Interpersonal disorganization* (*Excessive social anxiety*, *Odd behavior*, *Lack of close friends*, *Odd thinking and language*). Likewise, different evidences for convergent and discriminant validity were gathered. It is worth mentioning that none of the 51 items showed differential functioning as a function of gender of the adolescents. However, and given that the ESQUIZO-Q is a self-report of recent construction, it is necessary to carry out new studies that will continue to examine its metric quality in independent and representative samples of the general adolescent population.

Within this research context, the main objective of this instrumental study (Carretero-Dios and Pérez, 2007) was to analize the internal structure and reliability of the Oviedo Schizotypy Assessment Questionnaire (ESQUIZO-Q) in a representative sample of Spanish adolescents from the general population. These objectives are interesting as they allow us to: a) deepen our knowledge regarding the psychometric behavior of a self-report that can be used as a screening tool for the detection of individuals at risk for psychosis; b) improve our comprehension of schizotypal traits as risk markers for schizophrenia-spectrum disorders, without the confounding effects frequently associated in patients with schizophrenia and in a developmental stage of special risk for schizophrenia such as adolescence; and c) advance in the understanding of the expression of the psychotic phenotype in the general population within the dimensional models of psychosis.

Method

Participants

Stratified random cluster sampling was carried out at the classroom level, in a population of approximately 36,000 students selected from the Principality of Asturias, a region in northern Spain. The students were from various public and state-subsidized secondary schools and vocational training centres, as well as from a range of socio-economic levels. The strata were

created on the basis of geographical zone (East, West, Centre, and Mining area) and educational stage (compulsory – to age 16 – and post-compulsory). The likelihood of the inclusion of a school was directly porportional to the number of students in it. The pupils were from various public, state-subsidized and private secondary and vocational schools. The initial sample consisted of 1,628 participants, however, participants were discarded if: a) they obtained a high score on the Oviedo Infrequency Scale (more than two points) (n = 64); b) they presented learning difficulties (n = 6); c) they were older than 18 (n = 35); d) they omitted demographical data (n = 49); and e) outlier scores (n =36). Thus, the final sample was made up of 1,438 participants, 693 boys (48.2%) and 745 girls (51.9%), from a total of 28 schools and 90 classrooms. The mean age was 15.92 years (SD = 1.17), with an age range of 14 to 18 years. The sample distribution according to age was the following: 14 year olds (n = 193; 13.4%), 15 year olds (n = 348; 24.2%), 16 year olds (n = 408; 28.4%), 17 year olds (n = 355; 24.7%) and 18 year olds (n = 134; 9.3%).

Instruments

- The Oviedo Schizotypy Assessment Questionnaire (ESQUIZO-Q) (Fonseca-Pedrero, Muñiz, *et al.*, 2010) is a self-report composed of 51 items in a 5-point Likert-type response format (1: Completely disagree; 5: Completely agree) designed to assess schizotypal traits in adolescents, although it can also be used in epidemiological studies (Fonseca-Pedrero, Lemos-Giráldez, Paino, Sierra-Baigrie *et al.*, 2009). The ESQUIZO-Q is based on the diagnostic criteria proposed in the DSM-IV-TR (American Psychiatric Association, 2000) and on Meehl's schizotaxia model (1962) regarding genetic predisposition to schizophrenia. The items of ESQUIZO-Q were selected on the basis of an exhaustive review of the literature on schizotypy (Fonseca-Pedrero *et al.*, 2008). Its construction was conducted following the proposed steps for the construction of measurement instruments (Muñiz and Fonseca-Pedrero, 2008; Schmeiser and Welch, 2006) and the guidelines for multiple choice item construction (Moreno, Martínez, and Muñiz, 2006). The ESQUIZO-Q comprises a total of 10 subscales derived empirically by means of factor analysis: *Ideas of reference*, *Magical thinking*, *Unusual perceptual experiences*, *Odd thinking and language*, *Paranoid ideation*, *Physical anhedonia*, *Social anhedo-*

nia, *Odd behavior*, *Lack of close friends* and *Excessive social anxiety*. These subscales are grouped into three general dimensions: *Reality distortion*, *Negative*, and I*nterpersonal disorganization*. Internal consistency levels for the ESQUIZO-Q subscales ranged from .62 to .90 and evidences for convergent-discriminant validity were obtained (Fonseca-Pedrero, Muñiz *et al.*, 2010; Fonseca-Pedrero *et al.*, 2011).

- The Oviedo Infrequency Scale (INF-OV) (Fonseca-Pedrero, Lemos-Giráldez, Paino, Villazón-García et al., 2009) is a 12-item self-report with a 5-point Likert-type rating scale format (1 *Totally disagree*; 5 *Totally agree*). Its goal is to detect participants who respond randomly, pseudorandomly or dishonestly on self-reports (*e.g.*, "The distance between Madrid and Barcelona is greater than between Madrid and New York"). This type of self-report is frequently used in studies on psychosis proneness (Kwapil *et al.*, 2008). Students with more than 2 incorrect responses on this test were removed from the study. In the present study a total of 64 participants were eliminated according to this criterion.

Procedure

The administration of the questionnaires was conducted in a collective manner in groups of 10 - 35 students during the school schedule and in a room prepared for this purpose. The study was presented to participants as an investigation regarding diverse personality characteristics, assuring participants of the confidentiality of their answers as well as the voluntary nature of their participation. The completion of the questionnaires was conducted under the supervision of a researcher at all times. In cases where necessary, parental informed consent was obtained. The study is part of a wider investigation on the detection and early intervention in psychological disorders in adolescence. The study was approved by the Research and Ethics Committees at the University of Oviedo, and the Department of Education of the Principality of Asturias.

Data analysis

First, the descriptive statistics for the ESQUIZO-Q subscales and second-order dimensions were calculated. Second, the Pearson correlations among the subscales of the ESQUIZO-Q were examined. Next, the dimen-

sional structure underlying the ESQUIZO-Q items was analyzed by means of a Principal Components Analysis with posterior Oblimin rotation. In addition, the internal structure of the questionnaire was examined analyzing the dimensional structure at the subscale level. Fourth, the reliability for both the subscales and general dimensions of the ESQUIZO-Q were estimated using Cronbach´s Alpha coefficient. For the statistical analyses, we used the SPSS 15.0 program.

Results

Descriptive statistics

Table 1 shows the descriptive statistics for the total sample referring to the number of items, mean, standard deviation, asymmetry and kurtosis values, score range and levels of internal consistency for the ESQUIZO-Q subscales as well as for the second-order dimensions. As can be observed, the asymmetry and kurtosis values for the subscales fell within the normality range.

TABLE 1. Descriptive statistics for the subscales and the dimensions of the Oviedo Schizotypy Assessment Questionnaire.

Subscales	*Nº items*	*Mean*	*SD*	*Asymmetry*	*Kurtosis*	*Range*	*Alpha*
Ideas of Reference	4	5.92	2.48	1.43	1.60	4-17	.68
Magical Thinking	5	7.31	2.79	1.38	1.67	5-21	.62
Unusual Perceptual Experiences	7	9.84	3.87	1.78	3.29	7-29	.75
Paranoid Ideation	5	7.69	3.13	1.43	2.13	5-25	.74
Social Anhedonia	5	7.61	2.42	1.01	0.84	5-17	.62
Physical Anhedonia	4	7.88	2.73	0.70	0.65	4-19	.61
Odd Thinking and Language	6	13.63	4.70	0.39	-0.34	6-30	.79
Odd Behavior	4	6.80	2.85	1.33	1.86	4-20	.70
Lack of Close Friends	4	9.19	3.64	0.49	-0.23	4-20	.62
Excessive Social Anxiety	7	14.79	5.26	0.74	0.50	7-35	.80
Dimensions							
Negative	9	15.49	4.11	0.71	0.76	9-33	.66
Reality Distortion	21	30.75	9.38	1.13	0.61	21-62	.86
Interpersonal Disorganization	21	44.40	11.85	0.47	0.04	21-93	.85

The Pearson correlations among the ESQUIZO-Q subscales are displayed in Table 2. It can observed that: a) there was a positive correlation among the *Ideas of reference*, *Magical thinking* and *Unusual perceptual experiences* subscales; b) there were also strong correlations among the subscales *Odd thinking and language*, *Excessive social anxiety*, *Lack of close*

friends and *Odd behavior*; c) the *Physical anhedonia* subscale correlated negatively with the remaining subscales and positively with the *Social anhedonia* subscale; and d) in addition, the *Social anhedonia* subscale correlated significantly, although weakly, with the remaining subscales.

TABLE 2. Pearson correlations among the subscales of the Oviedo Schizotypy Assessment Questionnaire.

	REF	*MAG*	*EXP*	*PA*	*SocAnh*	*PhyAnh*	*OTL*	*OB*	*LCF*	*ANX*
REF										
MAG	.48*									
EXP	.50*	.52*								
PA	.36*	.40*	.38*							
SocAnh	.09*	.02	.05	.14*						
PhyAnh	-.12*	-.10*	-.13*	-.10*	.27*					
OTL	.31*	.31*	.38*	.38*	.08*	-.14*				
OB	.36*	.28*	.43*	.46*	.14*	-.16*	.34*			
LCF	.17*	.16*	.23*	.33*	.11*	-.10*	.32*	.33*		
ANX	.28*	.28*	.30*	.34*	.08*	-.15*	.43*	.34*	.29*	

Notes. *$p < .01$. REF: Ideas of reference; MAG: Magical thinking; EXP: Unusual perceptual experiences; PA: Paranoid ideation; SocAnh: Social anhedonia; PhysAnh: Physical anhedonia; OTL: Odd thinking and language OB: Odd behavior; LCF: Lack of close friends; ANX: Excessive social anxiety.

Evidence of validity based on internal structure

The results of the Principal Components Analysis at the item level of the ESQUIZO-Q are presented in Table 3. The sampling adequacy value was 20,260.37 ($p < .001$), being the Kaiser-Meyer-Olkin index (KMO) .89. The 11 components obtained that were above 1 explained 51.71% of the total variance. The first component was composed of items related to *Unusual perceptual experiences* (17.41% of the explained variance). The second component grouped items related to aspects such as excessive social anxiety (5.54% of the explained variance). The third component was formed of items that measured social anhedonia (5.30% of the explained variance). The fourth component corresponded to items that assessed odd behavior (3.97% of the explained variance). The fifth component grouped items related to odd thinking and language (3.74% of the explained variance). The sixth component was composed of items related to paranoid ideation and magical thinking (3.22% of the explained variance). The seventh component consisted of two items related to lack of close friends (relationships with peers) (2.86% of the explained variance). The eighth component was composed of items related to ideas of reference (2.73% of the explained variance), whereas the ninth

component corresponded to items assessing physical anhedonia (2.56% of the explained variance). The tenth component grouped items related to lack of close friends, but related to family relationships (2.31% of the explained variance). Finally, the eleventh component gathered items assessing magical thinking (2.16% of the explained variance). As can be observed, the *Lack of close friends* component was divided into two facets, one related to family relationships and the other related to relationships with peers. Likewise, the *magical thinking* component was also divided into two subcomponents, the first more related to paranoid ideation and the second referring to thought reading.

TABLE 3. Principal Components Analysis of the Oviedo Schizotypy Assessment Questionnaire (ESQUIZO-Q) items.

	Components										
Items	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
30	.80										
7	.75										
28	.70										
49	.58										
32	.44							.36			
39	.42										
45											
15		-.73									
16		-.72									
42		-.66									
14		-.65									
29		-.61									
5		-.60									
4		-.54									
2			.73								
1			.65								
13			.63								
40			.58								
27			.49								
6				-.71							
38				-.66							
3				-.62							
48				-.49							
31					-.78						
9					-.77						
23					-.74						
18					-.71						
33					-.57						
36					-.32						
24						-.69					
17						-.66					
47						-.64					
46				-.32		-.56					
34				-.35		-.51					
51						-.50					
35											
8											
26							.90				
19							.87				
11								.74			
12								.66			
21								.61			
50								.48			
41									.76		
37									.71		
43									.58		
22									.56		
20										.70	
10										.67	
25											.54
44								.33			.51

A Principal Components Analysis was also conducted with posterior Oblimin rotation using the ESQUIZO-Q subscales. Table 4 shows the factorial loadings and the percentage of explained and accumulated variance by the three obtained components that presented a value above one. The sampling adequacy measure was 3,191.46 ($p < .001$), being the KMO index

.84. The first component corresponded to the subscales *Lack of close friends*, *Excessive social anxiety*, *Odd thinking and language*, Odd behavior and *Paranoid ideation*, and was denominated *Interpersonal disorganization*. The second component corresponded to the *Physical* and *Social anhedonia* subscales and was denominated *Negative*. Finally, the third component grouped the subscales *Magical thinking*, *Ideas of reference*, *Unusual perceptual experiences* and *Paranoid ideation* and was named *Reality distortion*. The paranoid ideation facet saturated in the *Interpersonal disorganization* and *Reality distortion* components. The correlation between the three dimensions was the following. FI-FII: .01; FI-FIII: .41; FII-FIII: -.03.

TABLE 4. Principal Components Analysis of the Oviedo Schizotypy Assessment Questionnaire (ESQUIZO-Q) subscales.

	Components		
Subscales	*I*	*II*	*III*
Lack of Close Friends	.82		
Excessive Social Anxiety	.65		
Odd Thinking and Language	.62		
Odd Behavior	.56		
Paranoid Ideation	.49		.35
Social Anhedonia		.80	
Physical Anhedonia		.78	
Magical Thinking			.84
Ideas of Reference			.79
Unusual Perceptual Experiences			.75
Eigenvalue	3.51	1.28	1.07
% Explained variance	35.09	12.79	10.73
% Accumulated explained variance	35.09	47.88	58.61

Note: Factorial loadings inferior to .30 have been eliminated.

Analysis of internal consistency

As can be observed in Table 1, the levels of internal consistency for the ESQUIZO-Q subscales ranged from .61 (*Physical anhedonia*) to .80 (*Excessive social anxiety*). The levels of internal consistency for the general dimensions of the ESQUIZO-Q ranged from .66 (Negative) to .86 (Reality Distortion).

Discussion

Adolescence is an interesting period for the early detection of serious psychological disorders, such as is the case of psychosis, as well as for the study of risk and protection markers, with the advantage that their study does not imply the confounding effects frequently found in samples of patients. Both from a clinical and a research perspective, it is of great importance to have at our disposal measurement instruments that are brief, easy and of rapid application to use as screening methods for the detection and posterior preventive intervention of participants who are at risk for psychosis. Thus, the main objective of the present study was to analyze the internal structure and reliability of the Oviedo Schizotypy Assessment Questionnaire (ESQUIZO-Q) (Fonseca-Pedrero, Muñiz et al., 2010) in a community sample of adolescents. The results showed that the ESQUIZO-Q is a self-report with an adequate psychometric properties that can be used for the assessment of schizotypy in adolescents.

The levels of internal consistency for the subscales and the general dimensions of the ESQUIZO-Q ranged from .61 to .86. Some of the reliability estimates were inferior to .70; however, it must be taken into account that certain subscales that constitute the ESQUIZO-Q are composed of a reduced number of items (Fonseca-Pedrero, Muñiz et al., 2010). The obtained results are completely convergent with those found in previous studies. For example, Fonseca-Pedrero et al. (2010) found that the levels of internal consistency for the ESQUIZO-Q subscales ranged from .62 to .90, whereas for the second-order dimensions, they ranged from .67 to .88. Undoubtedly, in future studies, it would be interesting to incorporate a greater number of items in the Negative dimension of the ESQUIZO-Q to improve its internal consistency.

The analysis of the internal structure of the ESQUIZO-Q items revealed a dimensional solution composed of a total of 11 components that corresponded in a trustworthy manner with the subscales theoretically proposed by the designers of the ESQUIZO-Q. Two exceptions were found: a) just as found in previous studies (Fonseca-Pedrero, Muñiz et al., 2010) and in accordance with the DSM-IV-TR criteria (American Psychiatric Association, 2000), the *Lack of close friends* subscale was divided into two components, one related to the lack of friends at the peer level, and the other in relation to family; and b) the magical thinking facet was also divided into two aspects, one more related to paranoid aspects, and the other refers to the capacity of

mind-reading. In this regard, the 51 items that constitute the ESQUIZO-Q were perfectly grouped into the subscales proposed in its construction, with the exception of three items and keeping in mind the sample variability (Fonseca-Pedrero, Muñiz et al., 2010). These data support its factorial validity and the construction of the subscales. The analysis of the internal structure of the ESQUIZO-Q subscales reflected that schizotypy is a three-factor structure specified in the following factors: *Reality distortion*, *Negative* and *interpersonal disorganization*. This three-factor model is completely convergent with the previous studies conducted with the ESQUIZO-Q, thus, these data also support the underlying structure of the self-report (Fonseca-Pedrero, Muñiz et al., 2010). In previous studies that have used other self-reports, a factorial structure similar to the one in this study is found (Bora and Arabaci, 2009; Fonseca-Pedrero, Lemos-Giráldez, Paino, Villazón-García *et al.*, 2009; Fonseca-Pedrero, Paino, Lemos-Giráldez, Villazón-García *et al.*, 2009; Fossati *et al.*, 2003; Kwapil *et al.*, 2008; Wuthrich and Bates, 2006), although we must keep in mind the difficulties inherent to the comparison between studies (*e.g.*, cultural origin or sampling). For example, Fonseca-Pedrero, Linscott, Lemos., Giráldez, Paino, and Muñiz (2010), using the Thinking and Perceptual Style Questionnaire (TPSQ) in a sample of Spanish adolescents, obtained a three-factor structure composed of the dimensions: *Aberrant processing*, *Anhedonia*, and *Social disorganization*. Other studies using the SPQ by Raine (1991) consistently replicate the disorganized model of schizotypy composed of the *Positive*, *Interpersonal* and *Disorganized* dimensions (Bora and Arabaci, 2009; Fonseca-Pedrero, Lemos-Giráldez, Paino, Villazón-García *et al.*, 2009; Fonseca-Pedrero, Paino, Lemos-Giráldez, Villazón-García *et al.*, 2009; Fossati *et al.*, 2003; Wuthrich and Bates, 2006). These data indicate that schizotypy seems to be a multifactorial structure specified in three correlated factors.

The "psychometric high risk" paradigm is considered a reliable, valid and useful strategy for the psychometric detection of individuals who are vulnerable to developing schizophrenia. Likewise, the use of these measurement instruments constitutes, in comparison to other techniques, a rapid, efficient and noninvasive system of assessment (Fonseca-Pedrero, Paino, Lemos-Giráldez, García-Cueto *et al.*, 2009; Gooding et al., 2005; Kwapil et al., 2008). Follow up studies have found that participants with high scores on these self-reports have a greater risk of transiting toward a psychotic disorder in the future (Chapman *et al.*, 1994; Dominguez *et al.*, in press;

Gooding *et al.*, 2005; Poulton *et al.*, 2000; Welham *et al.*, 2009). In addition, these individuals who report schizotypal experiences present a greater degree of affective, social, interpersonal and behavioral alteration (Blanchard, Collins, Aghevli, Leung, and Cohen, in press; Fonseca-Pedrero, Lemos-Giráldez, Paíno-Piñeiro, Villazón-García, and Muñiz, 2010; Kwapil *et al.*, 2008; Lenzenweger, McLachlan, and Rubin, 2007; Raine, 2006). These data seem to reflect that the alterations characteristic of patients with schizophrenia can also be found in samples of the general population below the clinical threshold, supporting the continuity hypothesis of the psychotic phenotype. According to this theory, schizotypal experiences are situated at some point of this continuum and could be seen as an "intermediate" phenotype, qualitatively similar and quantitatively less severe than the symptomatology found in patients with schizophrenia presenting itself with a lesser intensity, persistence, frequency and associated disability (Dominguez *et al.*, in press; Fonseca-Pedrero, Lemos-Giráldez, Paino *et al.*, 2010).

The results found in the present study should be interpreted in light of the following limitations. First, the extracted conclusions are founded exclusively on a self-report and there is no doubt that the use of external informants such as parents or teachers via hetero-reports would have been interesting. Second, it is frequent that the questions on these self-reports can cause stigma on participants. Third, the schizotypal traits must always be analyzed within a biopsicosocial model. The additive or synergic interactions between schizotypy and genetic, chemical, cognitive and social aspects are relevant and interesting with a view to understanding and explaining the transition to the clinical state. Fourth, no information was gathered regarding the participants´ psychiatric morbidity or the use or abuse of substances, aspects which may be partially modulating the obtained results.

Future lines of research should continue to examine its psychometric properties in other samples of interest, such as adolescents or young adults with prodromes ("clinical high risk" studies) (Lemos-Giráldez *et al.*, 2009). It is specifically relevant to determine the predictive capacity of this self-report (*e.g.*, sensitivity and specificity) in longitudinal studies as well as construct computerized adaptive tests or ipsative versions for their use in selection contexts. Finally, the examination of the type of relationship held by the ESQUIZO-Q dimensions and other biochemical, psychophysiological, cognitive and behavioral variables, is also an interesting line of study for the near future.

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