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Validation of the Community Assessment Psychic Experiences -42 (CAPE-42) in Spanish college students and patients with psychosis

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Psychotic-like experiences can be considered as a vulnerability marker for psychotic disorders. The psychometric assessment of the extended psychosis phenotype has advanced considerably in recent years, although it must continue to deepen the quality of self-reports available for its assessment in Spanish population. The main goal was to analyze the psychometric quality of the Community Assessment Psychic Experiences-42 (CAPE-42) in Spanish college students and patients with psychosis. The final sample was comprised of a total of 660 students (M = 20.3 years, SD = 2.6) and 97 patients with psychosis (M = 35.4 years, SD = 10.2). The goodness of fit indices resulting from the confirmatory factor analysis that tested the hypothesized three-dimensional model (Positive, Negative and Depressive) were not adequate. In contrast, the exploratory factor analysis yielded a three-dimensional solution. Internal consistency values for the three dimensions of the CAPE-42 ranged between 0.78 and 0.89 in the sample of students and between 0.84 and 0.93 in the patients with psychosis. The CAPE-42 scores correlated statistically significant with delusions and trait anxiety and state. These results show further evidence of validity of the CAPE-42 scores in samples of the Spanish population and support its use as a tool for the assessment of the extended psychosis phenotype.

Keywords: Psychosis, Phenotype, CAPE-42, Self-Report, Psychometric Properties, Schizotypy

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Validación de la Escala para la Evaluación Comunitaria de las Experiencias Psíquicas–42 (CAPE–42) en universitarios y pacientes con psicosis

Las experiencias psicóticas atenuadas se pueden considerar como marcador de vulnerabilidad para los trastornos psicóticos. La evaluación del fenotipo psicótico ha avanzado considerablemente en los últimos años, si bien se debe seguir profundizando en la calidad métrica de los autoinformes disponibles para su valoración en población española. El objetivo de este trabajo fue analizar la calidad psicométrica de la *Community Assessment Psychic Experiences*-42 (CAPE-42) en universitarios españoles y en pacientes con psicosis. La muestra final la formaron un total de 660 estudiantes (M = 20,3 años; DT = 2,6) y 97 pacientes con psicosis (M = 35,4 años; DT = 10,2). Los índices de bondad de ajuste resultantes del análisis factorial confirmatorio que sometía a prueba el modelo tridimensional hipotetizado (dimensiones Positiva, Negativa y Depresiva) no fueron adecuados. En cambio, el análisis factorial exploratorio arrojó una posible solución tridimensional. Los valores del consistencia interna para las tres dimensiones de la CAPE-42 oscilaron entre 0,78 y 0,89 en la muestra de estudiantes y entre 0,84 y 0,93 en la muestra de pacientes. Las puntuaciones la CAPE-42 correlacionaron de forma estadísticamente significativa con ideación delirante y ansiedad rasgo y estado. Estos resultados arrojan nuevas evidencias de validez de la CAPE-42 en muestras de la población española y avalan su utilización como instrumento de medida para la valoración del fenotipo psicótico.

Palabras clave: Psicosis, Fenotipo, CAPE-42, Autoinforme, Propiedades psicométricas, Esquizotipia

INTRODUCTION

Delusional ideas, hallucinatory experiences and depressive-type affective disorders are core traits in the diagnosis of psychotic disorders.[1] Psychotic experiences are not only limited to the clinical population but can also be found in the general population under the clinical threshold.[2]

Eduardo Fonseca-Pedrero, et al.

Validation of the Community Assessment Psychic Experiences -42 (CAPE-42) in Spanish college students and patients with psychosis

For example, Nuevo et al.,[3] in a study conducted on a sample of 256,445 persons in 52 countries, found that the prevalence of the control delusions was 4.8% and of the reference and persecution delusions 8.4%. On the other hand, Freeman et al.,[4] in a representative sample formed by 7281 English persons, found that 1.8% and 18.6% of the participants reported delusional type beliefs during the last year. Approximately 1-3% of the non-clinical population have delusions considered to be severe comparable to that of the clinical cases of psychosis. Another 5-6% of the general population have delusional beliefs but these do not reach the level of severity. And another 10-15% of the non-clinical population have delusional ideation regularly.[5] A recent meta-analysis conducted by van Os et al. [2] showed that the mean rate of prevalence of said subclinical-type psychotic experiences was about 5.3%.

Attenuated psychotic experiences are a marker of vulnerability for psychotic disorders in general and for schizophrenic specifically. Independent longitudinal studies show that the presence of such nonclinical subclinical symptoms in adolescents and young adults increases the future risk of developing psychosis.[6-9] Even more, when the temporal persistence and frequency of said experiences increase, such as when there is exposure to environmental risk factors, there is greater probability of moving towards a clinical picture and the need for treatment.[6, 10, 11] In this sense, subclinical psychotic symptoms may represent the behavioral expression of vulnerability to psychotic disorder in the general population. These subclinical experiences also have a clear impact on health.[3] They have been related to clinical correlates such as anxiety, depressive symptoms and/or affective dysregulation[12-16] and they have been associated with the same risk factors found in patients with psychosis, such as, for example younger age, lower level of education, unemployment, urbanicity, consumption of cannabis, or neurodevelopment alterations.[2, 17] These empirical data seem to support the validity of this construct and suggest a continuity between the phenotype of clinical and subclinical psychosis.[2]

The field of evaluation of the psychotic phenotype has considerably advanced in the last quarter of the century.[18-21] The *Community Assessment Psychic Experiences*-42 (CAPE-42)[20] scale is a self-report principally developed from the *Peters et al. Delusions Inventory-21* (PDI-21).[18] This scale makes it possible to evaluate psychotic experiences, both negative and positive, and the depressive symptoms, which are also characteristic of these disorders. Previous studies have used the CAPE-42 in clinical samples,[22] in samples of the general population,[20, 23] in young persons demanding care services,[24] in nonclinical adolescents[25, 26] as well as in relation to a wide range of variables (e.g. genetics, environmental stress since, etc.).[27, 28] The CAPE-42 scores have demonstrated adequate psychometric behavior regarding internal consistency, temporal stability and different evidences of validity.[20, 22, 23, 29, 30] For example, the levels of internal consistency for the three dimensions of the CAPE-42 are superior to 0.77,[23] Cronbach's alpha estimates for the total scale being superior to 0.89.[31] The intraclass correlation coefficient or temporal stability for the scores of the three dimensions of the CAPE-42 is superior to 0.64.[29] It is worth mentioning that some relevant works in the study of the CAPE-42 do not report on the levels of internal consistency, or those of the dimensions nor of the total score.[20, 30]

In relation to the analysis of its internal structure, Stefanis et al.,[20] using a sample of 932 Greek prisoners, found that the 3-dimensional solution formed by the Positive, Negative and depressive dimensions were the best indexes of goodness of fit presented in comparison with the models proposed. In another study, Verdoux et al.,[30] using a sample of 57 French university students, analyzed the principal components and found a 3-factor dimensional solution similarly correlated to that reported by Stefanis et al.[20] Furthermore, Brenner et al.,[23] using a sample of 2275 Canadians, carried out different confirmatory and exploratory factorial analyses and found that the 3-factor solution had modest indexes of goodness of fit (CFI= 0.862; AGFI= 0.855; GFI= 0.734; RMSEA= 0.062), although it is also true that other dimensional structures formed by four or five factors were equally plausible. Some studies have also analyzed the internal structure of the CAPE-42 only considering the items that evaluate the positive dimension and have found multidimensional solutions of 4 or 5 factors (e.g. Hallucinations, Paranoia, Grandiosity, Delusions and Bizarre Beliefs).[26, 32]

As can be observed, on the international and national level, the works that analyze the metric quality of the CAPE-42 are presently insufficient, the need standing out for new investigations to be carried out that would make it possible to know and go deeper into the psychometric properties of their scores in new samples and contexts of interest (e.g., Spanish population). It is important to have reliable, short and simple instruments that make it possible to make supported decisions regarding the selection of participants at risk of psychosis or the study of the psychotic phenotype in general population and/or clinical samples.

Within this research context, the main purpose of the present work was to study the psychometric quality of the CAPE-42 in a sample of Spanish university students and patients with psychosis. Based on the above purpose, the rates of psychotic experiences reported by the participants were analyzed. Their internal structure was analyzed, their reliability estimated and sources of validity were obtained in relation to other variables that measure delusional ideation and state-trait anxiety.

Eduardo Fonseca-Pedrero, et al.

Validation of the Community Assessment Psychic Experiences -42 (CAPE-42) in Spanish college students and patients with psychosis

METHOD

Participants

Two samples of participants were used in this work: university students and patients with psychosis. The student sample, incidentally chosen, was made up of a total of 660 university students, 195 males (29.5%), belonging to different studies from the University of Oviedo (Teacher training, Criminology, Psychology, Medicine, Speech therapy, Computer sciences, Economy and Physiotherapy). Mean age of the participants was 20.3 years (SD = 2.6), age range between 17 and 30 years. Mean number of years of education was 16.8 (SD = 2.3). Regarding marital status, 81.6% of the sample were single, 16.2% married, 0.6% divorced and 1.7% did not report their status. Regarding occupational situation, 86.6% of the participants did not work, 12.6% worked and 1.2% did not report their work situation. The sample of patients with psychosis was made up of a total of 97 participants referred from the Mental Health Unit of the Hospital de Sierrallana de Torrelavega (Santander) and from different facilities of the mental health network of the Principality of Asturias. Of all the patients, 68 were males (70.1%). Mean age was 35.4 years (SD = 10.2), age ranging from 14 to 66 years. A total of 24.7% of the patients were in active work situation. In relation to study level, 27.8% of the sample had primary studies 25.8 had graduated in obligatory secondary school, 28.9% in Junior and Senior High School and 15.5% had university studies. A total of 61.9% received pharmacological treatment and 38.1% combined treatment (psychological and pharmacological).

Instruments

Community Assessment Psychic Experiences-42 (CAPE-42).[20] CAPE is made up of 42 items that evaluate the Positive (20 items), Negative (14 items) and Depressive (8 items) dimensions of psychotic symptoms. Each question is answered in the 4-point *Likert* - type response that ranged from *almost never* (1) to *almost always* (4). If the participant chooses the response options "*Sometimes,*" "*Often*" or "*Almost always,*" the grade of malaise that such experience produces should be indicated on a 4-point *Likert* scale (0 = "*it does not bother me at all,*" 3 = "*It bothers me a lot*"). In this study, the version that was validated and adapted to Spanish was used [available at http://cape42.homestead.com/].[33] The scores of the Spanish version of the CAPE-42 have adequate reliability levels. Furthermore, there are different sources of validity that support its use as a measure to evaluate the psychotic phenotype.[25, 31, 33]

Peters et al. Delusions Inventory-21 (PDI-21).[18] The PDI-21 is a self-report designed for the evaluation of delusional symptoms in the general population. The PDI is made up of a total of 21 items in dichotomy YES/NO response format.

Total score is obtained by adding up the positive responses in each one of the items, so that the maximum score that can be reached is 21 points. A higher score is indicative of greater delusional symptoms or delusional tendency. In addition, each one of the items is made up of three subscales that measure grade of conviction, preoccupation and distress. In these three subscales, the score system used is the 5-category *Likert* type (1-5). Previous studies conducted have indicated that the PDI-21 is a measurement instrument with adequate metric quality.[12, 18, 34] In this work, the Spanish version of the PDI-21 was used. It has shown a Cronbach's alpha for the total score of 0.75.[35]

State-Trait Anxiety Inventory (STAI).[36] The STAI is a self-report made up of 40 items designed for the evaluation of two independent concepts of anxiety: anxiety as state and anxiety as trait. Each scale is made up of a total of 20 items on a 4-point Likert response system according to intensity (0 = "*almost never /never;*" 3 = "*a lot/almost always*"). The total score in each one of the scales ranges from 0 to 60 points. This work has used the Spanish adaptation of the STAI.[37] In this version, internal consistency levels have been found that range from 0.84 to 0.93. Furthermore, validity evidence has been obtained in relation to the internal structure and to other variables.[37, 38]

Procedure

The administration to the student sample of the measurement instruments was carried out collectively, in groups of 10 to 45 students, during school hours and in a room conditioned for the purpose. The study was presented to the participants as an investigation on the different personality characteristics and they were assured about the confidentiality of their responses and the voluntary character of their participation. Administration of the self-reports was always done under the supervision of an investigator. In the case of the sample of patients with psychosis, the self-report was administered individually during a clinical session and in an adequately prepared room. This study was classified within two lines of wider investigation related with the early detection of severe disorders in non-clinical young adults and with the prevention and early intervention of patients with prodromes or first psychotic episode (www.p3-info.es).

Data analysis

In the first place, descriptive statistics were calculated for the items and dimensions of the CAPE-42. In the second place, the internal structure of the CAPE-42 was analyzed by confirmatory factorial analysis for ordinal data in a sample of university students. Estimation method used was WLSMV (*Weighted Least Squares Mean and Variance Adjusted*). Goodness of fit indexes used were: comparative fit index

Table 1	Descriptive statistics of the Community Assessment of Psychic Experiences -42 (CAPE-42) scale in the sample of university students and patients with psychosis							
	CAPE-42 Positive		CAPE-42 Negative		CAPE-42 Depressive		CAPE-42 Total	
	University students	Patients	University students	Patients	University students	Patients	University students	Patients
Mean	25.06	30.07	22.91	27.11	13.49	15.47	61.45	72.66
SD	4.46	9.33	4.71	8.19	2.78	5.02	9.43	18.41
Asymmetry	3.76	1.41	0.57	0.53	1.31	0.78	1.20	0.36
Kurtosis	24.89	2.08	0.45	-0.11	2.75	0.31	3.94	-0.60
Range	20-67	20-62	14-42	14-48	8-28	8-32	42-124	43-125
Alpha	0.83	0.90	0.82	0.88	0.78	0.84	0.89	0.93

(CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA) and Weighted Root Mean Square Residual (WRMR). For a good fit to exist of the model data, the CFI and TLI should be superior to 0.95 and the RMSEA values should be inferior to 0.08 for a reasonable fit and inferior to 0.05 for a good fit. Goodness of fit indexes did not exceed the cut offs established in the scientific literature (CFI/GFI < 0.95; RMSEA > 0.08-0.05), so that an exploratory factorial analysis was performed. The procedure to determine the number of dimensions was the Implementation of the Optimal Parallel Analysis.[39] The factor extraction method used was the Weighted Minimum Squared with posterior rotation of Promin. In the third place, the Cronbach's alpha coefficient of the scores on the CAPE-42 for the two samples was estimated. In the fourth place, in order to obtain evidence of validity in relation to other variables, the Pearson's correlation between the self-report subscales in the group of university students was studied. For the data analysis, the SPSS 15.0,[40] Mplus 5.0[41] and Factor 8.0 statistical programs were used.[42]

RESULTS

Descriptrive statistics

Table 1 shows the descriptive statistics regarding the mean, standard deviation, asymmetries, kurtosis, range and internal consistency for the dimensions and total score of the CAPE-42, both in the university student sample and in that of the patients with psychosis. Comparison between mean scores in the dimensions and total score of the CAPE-42 based on our sample showed statistically significant differences: Positive dimension: $t = -5.21$, $p < 0.001$, $d = 0.686$; Negative dimension: $t = -4.94$; $p < 0.001$, $d = 0.63$; Depressive dimension: $t = -3.81$, $p < 0.001$, $d = 0.49$; and Total score: $t = -5.88$, $p < 0.001$, $d = 0.766$. The percentage

of university participants who answered affirmatively, [categories "*Sometimes*" (2), "*Often*" (3) or "*Almost always*" (4)], to some of the times on the positive dimension of the CAPE-42 ranged from 2% (item 34) to 75% (item 2). A total of 96.5% of the student sample reported experiencing "*Sometimes*," "*Often*" or "*Almost always*" positive psychotic experiences. If the range is restricted and only those participants who had responded "*Often*" or "*Almost always*," were selected in the options of responses of the positive dimension of the CAPE-42, the range of percentages clearly decreases. In this case, the rates are found between 0.6 % (item 24) and 20.3% (item 6), although it is true that all the percentages were close to 1-2%. (Table 1)

EVIDENCE OF INTERNAL STRUCTURE

Three hypothetical dimensional models were used to perform the confirmatory factorial analysis. The first model considered the presence of a single general dimension of psychosis that could explain all the underlying symptoms. The second model proposed two principal dimensions of psychosis, one of positive symptoms and the other of negative and depressive symptoms. The third model used was that proposed by Stefanis et al. (2002), which postulated the presence of three dimensions (Positive, Negative and Depressive). The results for the unidimensional model were: $x^2 = 1018.52$, g.l. = 113; CFI = 0.683; TLI= 0.773; RMSEA= 0.110; WRMR= 2.405. The goodness of fit indexes for the bidimensional model were: $x^2 = 677.94$, g.l. = 124; CFI = 0.806; TLI= 0.873; RMSEA= 0.082; WRMR= 1.877. The results of the confirmatory factorial analysis for the model were: $x^2 = 623.79$, g.l. = 123; CFI = 0.825; TLI= 0.885; RMSEA= 0.079; WRMR= 1.803. As can be observed, the goodness of fit indexes did not achieve the cut offs recommended by the specialized literature, so that an exploratory factorial analysis was carried out.

Eduardo Fonseca-Pedrero, et al.

Validation of the Community Assessment Psychic Experiences -42 (CAPE-42) in Spanish college students and patients with psychosis

Table 2	Exploratory factorial analysis of the Community Assessment of Psychic Experiences-42 (CAPE-42) scale in the sample of university students		
	Factors		
Items	I	II	III
1			0.65
2			0.24
3			0.47
4	0.34		
5		0.42	
6			0.27
7		0.54	
8	0.68		
9			0.66
10		0.45	
11		0.43	
12			0.49
13	0.30		
14			0.46
15		0.45	
16	0.40		
17		0.42	
18			0.45
19			0.45
20		0.32	
21			0.54
22			0.26
23		0.37	
24		0.45	
25	0.35		
26		0.58	
27	0.63		
28		0.44	
29			0.32
30		0.47	
31		0.74	
32	0.81		
33		0.72	
34		0.75	
35			0.30
36			0.52

Table 2	Continuation		
	Factors		
Items	I	II	III
37			0.40
38			0.55
39			0.57
40			0.46
41		0.49	
42		0.71	

Note: Factorial loads inferior to 0.30 have been eliminated

In this way, in order to study the internal structure of the CAPE-42, an exploratory factorial analysis was conducted from the matrix of polychoric correlations. The elevated values of asymmetric and kurtosis found did not make it possible to calculate the matrix of polychoric correlations, so that Pearson's correlation matrix was used. The procedure to determine the number of dimensions recommended the extraction of four factors. However, the study of the tetradimensional solution indicated that only two items made up the fourth factor, so that the tridimensional solution was also studied. The three-factor model had a clear psychological interpretation and was coherent with the Cattel criterion (Sedimentation graphics).The factorial loads estimated of the factorial analysis are shown in table 2. The first factors explained 19.06% of the total variance (*eigenvalue* 8.01) and corresponded to items that evaluated the Negative dimension of psychosis. The second factor explained 10.69% of the total variance (*eigenvalue* 4.49) and grouped items that evaluated the Positive dimension of psychosis. The third factor explained 4.82% of the total variance (*eigenvalue* 2.02) and grouped items related with Depression and negative symptoms. Only three items had factorial loads inferior to 0.30. The correlation values between the factors were: FI-II = 0.25; FI-FIII = 0.41; FII-FIII= 0.21. (Table 2)

Estimation of the internal consistency of the scores of the CAPE-42

Table 1 shows the reliability values estimated through Cronbach's alpha coefficient. In a sample of university students, the levels ranged from 0.78 to 0.89 and in the sample of patients with psychosis, the values ranged from 0.84 to 0.93. All the discrimination indexes calculated for each sample and dimension of the CAPE-42 were superior to 0.30, except in three cases.

Eduardo Fonseca-Pedrero, et al.

Validation of the Community Assessment Psychic Experiences -42 (CAPE-42) in Spanish college students and patients with psychosis

Table 3	Pearson's Correlations between the dimensions of the Community Assessment of Psychic Experience –42 (CAPE-42 scale), total score of Peters-21 Delusions Inventory (PDI-21) and the two scales of State-Trait Anxiety Inventory (STAI) in the university student sample				
	CAPE-42 Positive	CAPE-42 Negative	CAPE-42 Depressive	PDI-21	STAI State
CAPE-42 Negative	0.36*				
CAPE-42 Depressive	0.32*	0.61*			
PDI-21	0.77*	0.43*	0.35*		
STAI State	0.27*	0.40*	0.56*	0.26*	
STAI Trait	0.30*	0.54*	0.72*	0.29*	0.64*
* p < 0,01					

Evidence of validity in relation to other variables

Table 3 shows the Pearson correlations between the dimensions of the CAPE-42, PDI-21 and subscales of the STAI in the university student sample. As can be observed, the correlations between the dimensions of the CAPE-42 and the scores of the PDI-21, and the State-Trait Anxiety were moderate and statistically significant, the values ranging from 0.27 to 0.77. In the sample of patients, the correlations between the three dimensions of the CAPE-42 were: Positive-Negative= 0.35; Positive-Depressive= 0.41; and Negative-Depressive= 0.73. (Table 3)

DISCUSSION AND CONCLUSIONS

The principal objective of this work was to study the psychometric quality of the Community Assessment of Psychic Experiences-42 (CAPE-42) in a sample of Spanish University students and patients with psychosis. Based on this purpose, the rates of psychotic experiences reported by the participants were analyzed. Their internal structure was examined, their reliability estimated and sources of validity were obtained in relation to other variables that measure delusional ideation and state-trait anxiety. There is no doubt that it is very important to have psychometric data that support and justify the use of the CAPE-42 in the Spanish population. The results indicate that the CAPE-42 is a brief measurement instrument, which is simple and fast to apply, which has correct psychometric behavior and that would be used as a screening instrument in the general population.

The prevalence rate of the psychotic experiences reported in this study ranged from 2% to 75% when a rather lax criterion was used and from 0.6% to 20.3% when a restrictive criterion was considered. As can be observed, the

rates of self-informed positive psychotic symptoms varied considerably based on the criterion used. Furthermore, the patients had higher mean scores than the university students, with a clear practical significance. These results regarding the prevalence rates of the psychotic symptoms are similar to those found in previous works, both in the general and adolescent population.[2-4, 26, 43] For example, Scott et al.,[44] using the PDI-21 in a sample of 2441 participants, found that 5.5% (item 21) to 77% (item 3) of the sample responded affirmatively to some item on the self-report. These data seem to support the idea that attenuated psychotic experiences are not limited only to the clinical population, but can also be found in the general population under the clinical phenotype. This suggests the possibility, on the psychometric level, of a continuity between the clinical and subclinical phenotype of the psychosis.[2, 17]

The results of the present study indicated that the CAPE-42 is a self-report with adequate psychometric properties regarding internal consistency and to internal structure evidences, and in relation to other variables. Calculation of the reliability, both for the student sample and that of the patients showed internal consistency levels superior to 0.78, this being superior in the case of the patient sample. These data are quite similar to those reported in previous works[23, 31] and provide new information on the reliability levels of the CAPE-42 in samples of patients with psychosis.

Analysis of the internal structure of the CAPE-42, made by confirmatory factorial analysis, did not support the hypothesized dimensional model of three-related dimensions proposed by the authors of the self-report.[20] However, the exploratory factorial analysis provided a tripartite solution that was more parsimonious made up of the Positive, Negative and Depressive/Negative factors. It is well to point

Eduardo Fonseca-Pedrero, et al.

Validation of the Community Assessment Psychic Experiences -42 (CAPE-42) in Spanish college students and patients with psychosis

out the overlapping found between some depressive and negative type items, as is well reflected by the resulting third factor of the factorial analysis. A careful analysis of said items clearly shows the difficulty of separating operatively both dimensions. In general terms, these results are partially consistent with those reported in previous works.[20, 23, 30] Furthermore, it is worthwhile mentioning that the overlapping found between the dimensions of the CAPE-42, both in the student and patient samples, is lower than that found in the previous literature,[22] although these results are similar to those reported by Verdoux et al.[30] These data are interesting when analyzing the convergent-discriminant validity of the dimensions making up the CAPE-42. New studies that are conducted should try to analyze the internal structure of the self-report in other samples of interest and that define the relation existing on the level of items between the Negative and Depressive dimension of the CAPE-42.

The CAPE-42 scores show a moderate positive correlation with those of the PDI-21 and of the State-Trait Anxiety of the STAI. These results provide new evidences of validity of the CAPE-42. Furthermore, they are clearly convergent with the data found in the previous literature, both in non-clinical adolescents and young adults[4, 12-14, 16, 26] and in our clinical sample of patients with psychotic disorders.[15, 45] The attenuated psychotic symptoms have been related with clinical correlates such as anxiety, depressive symptoms and/or affective dysregulation. These results indicate that the affective symptoms (depression and anxiety) are present in healthy persons subclinically, and that they could be qualitatively similar, although quantitatively different from those found in patients with psychosis. In this sense, it is interesting to indicate that recent studies stress the role that affective dysregulation may play when moving towards a clinical picture in individuals in the general population.[46, 47]

The results found in the present study should be interpreted considering the following limitations. In the first place, the characteristics of the sample do not allow generalization of the results to other populations of interest. Secondly, there is the problem inherent to the application of any type of self-report, so that it would have been interesting to have used external reporters, via hetero-report. In the third place, the cross-sectional nature of this research must be kept in mind, as it is not possible to establish cause-effect interferences. Finally, in the forth place, in the case of the sample of university studies, no information was collected on the presence of possible psychological disorders.

Future studies are need to investigate the metric properties of the CAPE-42 in relation to other markers of risk of psychosis (e.g. sustained attention deficit, executive functions, facial recognition) and in other samples of interest (e.g. participants with prodromes or first degree relatives with psychosis). Similarly, it would be interesting to

determine the predictive capacity (sensitivity and specificity) of the CAPE-42 in independent longitudinal studies and to determine their heuristic value in the detection of participants at risk of psychotic disorders.

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