Personality and Individual Differences 86 (2015) 338–343

Contents lists available at ScienceDirect

Personality and Individual Differences

journal homepage: www.elsevier.com/locate/paid

# The Oxford–Liverpool Inventory of Feelings and Experiences short version: Further validation

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ARTICLE INFO

*Article history:*
Received 30 April 2015
Received in revised form 23 June 2015
Accepted 29 June 2015
Available online xxxx

*Keywords:*
Schizotypy
Personality
Validation
Reliability
Invariance
O-LIFE

ABSTRACT

The main goal of the present study was to examine the dimensional structure and gather new sources of validity evidence of the Oxford–Liverpool Inventory of Feelings and Experiences short version (sO-LIFE) in a large sample of young adults. The sample was made up of 1002 college students ($M = 21.11$ years; $SD = 3.92$). The study of the internal structure, using confirmatory factor analysis, revealed that both three and four-factor solutions fitted well to the data. Furthermore, new measurement models, such us Exploratory Structural Equation Modelling (ESEM), showed that the hypothetical three-factor model displayed better goodness-of-fit indices than the other competing models tested. Multi-group ESEM showed that the three-factor model had partially strong measurement invariance across gender. The reliability of the scores ranged from 0.78 to 0.87. The sO-LIFE scores showed good convergent and discriminant validity with other measures of schizotypal personality traits and hedonic capacity. These results provide new information about the factor structure of schizotypy in non-clinical samples and support the use of sO-LIFE as a measure of schizotypy in nonclinical samples.



## 1. Introduction

Schizotypy is a latent personality organization that harbours the liability for psychosis in general, and schizophrenia in particular (Lenzenweger, 2010; Meehl, 1990). This is a complex construct that captures the expression of psychosis symptoms and impairment from non-clinical and subclinical levels to full-blown psychosis (Kwapil & Barrantes-Vidal, 2015). Empirical evidence indicates that individuals with high scores on schizotypy measures are at heightened risk for the later development of psychosis (Debbané et al., 2015) and show similar deficit to those found in patient with schizophrenia and individuals at high risk for psychosis (Cohen, Mohr, Ettinger, Chan, & Park, 2015; Ettinger, Meyhöfer, Steffens, Wagner, & Koutsouleris, 2014).

Several measuring instruments have been developed with the aim of detecting the latent vulnerability to psychosis of individuals at-risk for psychosis (Mason, 2015). The Oxford–Liverpool Inventory of Feelings and Experiences (O-LIFE) (Mason, Claridge, & Jackson, 1995), or its short version (sO-LIFE) (Mason, Linney, & Claridge, 2005), are one of the most well-known measures. The O-LIFE is a tool with 104 items (Yes/No response format) and four subscales empirically derived called: Positive Schizotypy (i.e., Unusual perceptual experiences), Cognitive Disorganisation, Introvertive Anhedonia, and Impulsive Nonconformity. Specifically, its psychometric properties have been analysed previously (Burch, Steel, & Hemsley, 1998; Mason, 1995, 2015; Mason & Claridge, 2006). Nevertheless, according to Mason et al. (2005), the full scales are arguably cumbersome and a shortened form is preferable particularly when used alongside other instruments. The shortened form aims to measure the same constructs reliably in an efficient manner as possible for use in large scale genetic or screening settings as well as traditional experimental research.

The sO-LIFE is a brief tool composed of 43 items covering the same four subscales. Currently, few studies have tested its psychometric properties (Cella et al., 2013; Lin et al., 2013; Sierro, Rossier, Mason, & Mohr, in press). Moreover, from a clinical and psychometric point of view, several limitations have been found: a) lack of factorial consistency and validity of the Impulsive Nonconformity (Lin et al., 2013); b) different methods of estimation to analyse the underlying structure for dichotomous data (e.g., ML, WLSMV); and c) low levels of reliability of the scores (Cella et al., 2013). Previous factorial models tested, using Confirmatory Factor Analysis (CFA), have demonstrated that both three- (without Impulsive Nonconformity dimension) and four-factor models fitted well to the data; however, Sierro et al. (in press) comparing both factorial models found that the three-factor solution was superior in terms of goodness-of-fit indices than the four-factor solution.

As has been seen, the internal structure of the sO-LIFE has not been clearly established and there is need for further replication. Likewise,

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http://dx.doi.org/10.1016/j.paid.2015.06.041
0191-8869/

new measurement models, such as bifactor models (Reise, 2012) or Exploratory Structural Equation Modelling (ESEM) (Marsh, Morin, Parker, & Kaur, 2014), have yet to be explored in depth. These new measurement models should be conducted in order to advance in the underlying factor structure of this measure of schizotypy as well as in personality assessment. For instance, bifactor models are useful when researchers typically write self-report items to assess a single construct (e.g., schizotypy) and they also recognize that the facets of the construct are diverse and substantively complex (e.g., four schizotypy dimensions). ESEM approach allow us to test less restrictive measurement models than those used in the traditional CFA models, e.g., where all cross-loadings constrained to zero. ESEM relaxes this restriction and factor loadings in all factors are estimated for each item, obtaining parameter estimates, standard errors, and goodness-of-fit indices usually associated with CFA. Consequently, to validly represent the construct, new measurement models need to be tested in this field.

Within this research context, the main goal of the present study was to analyse the dimensional structure and gather new sources of validity evidence of the sO-LIFE scores in a large sample of college students. Deriving from this general goal are the following specific objectives: a) to examine the internal structure of the sO-LIFE scores using CFAs and ESEM approach; b) to test the measurement invariance of the sO-LIFE scores across gender; c) to estimate the internal consistency with Ordinal alpha; and d) to analyse the relationship between sO-LIFE scores with schizotypal traits and hedonic capacity measures. We hypothesized that a four- and three-factor model would be more adequate than the other competing models. Moreover, it is possible that ESEM and bifactor models would show good fit to the data. In addition, we hypothesized that the factor structure of the measure would be equivalent across gender. Finally, it is also hypothesized that sO-LIFE scores would show adequate internal consistency values and associations with measures of schizotypal personality and hedonic capacity would be found.

## 2. Method

### 2.1. Participants

The final sample consisted of a total of 1002 university students (268 were males, 26.7%). Participants' mean age was 21.11 years ($SD = 3.92$), ranging from 17 to 35. Participants were asked if they had a psychological disorder: those who answered affirmatively were removed from the sample. Only 1.1% of the sample reported having a first-degree relative who had been diagnosed with a psychotic disorder or schizophrenia, while 9.5% reported having a first-degree relative with antecedents of another psychological disorder. With regard to marital status, 57.6% were single, 36.9% lived in common-law relationships, 2.9% were married, 0.2% were divorced, and 2.4% did not report their status. The study was approved by the Research and Ethics Committee.

### 2.2. Instruments

Oxford–Liverpool Inventory of Feelings and Experiences short version (sO-LIFE) (Mason et al., 2005). The 43-item sO-LIFE (Yes/No format) assesses Positive Schizotypy (12 unusual perceptual experiences items, e.g., "Are your thoughts sometimes so strong that you can almost hear them?"), Introvertive Anhedonia (10 items, e.g., "Do you prefer watching television to going out with people?"), Cognitive Disorganization (11 items, e.g., "Are you easily confused if too much happens at the same time?"), and Impulsive Nonconformity (10 items, e.g., "Do you at times have an urge to do something harmful or shocking?"). In the present study, the Spanish version of the O-LIFE was used (Barrantes-Vidal et al., 2013).

Schizotypal Personality Questionnaire—Brief Revised (SPQ-BR) (Cohen, Matthews, Najolia, & Brown, 2010). The revised SPQ-B contains 32 items and is scored on a five-point Likert-based response format (1 = *strongly disagree* to 5 = *strongly agree*). There are seven trait subscales: Odd Beliefs or Magical Thinking, Unusual Perceptual Experiences, Excessive Social Anxiety, Odd or Eccentric Behaviour, Odd Speech, No Close Friends and Constricted Affect, and Ideas of Reference and Suspiciousness. The psychometric properties of the SPQ-BR scores have been analysed (Callaway, Cohen, Matthews, & Dinzeo, 2014; Cohen et al., 2010). The Spanish version of the SPQ was used (Fonseca-Pedrero et al., 2014).

Temporal Experience of Pleasure Scale (TEPS) (Gard, Gard, Kring, & John, 2006). The TEPS was designed to measure individual trait dispositions in both anticipatory and consummatory experiences of pleasure. This 18-item self-report measure consists of two subscales: a 10-item anticipatory pleasure scale and an 8-item consummatory pleasure scale. The TEPS is scored in a 6-point Likert-type response format ranging from 1 (*very false for me*) to 6 (*very true for me*). The TEPS was adapted into Spanish following the international guidelines for test adaptation (Muñiz, Elosua, & Hambleton, 2013).

### 2.3. Procedure

Participants fulfilled the measurement instruments in a group session (10 to 50 students), during a standard hour-long class. Participants were informed about the research and, after signing the consent form, were asked to complete anonymous questionnaires. They received no type of incentive for taking part in the study. Administration of the instruments was always under the supervision of a researcher. This study is part of a broader research initiative on early detection and intervention in early adulthood.

### 2.4. Data analyses

First of all, descriptive statistics of the sO-LIFE subscales were calculated.

Second, we tested different hypothetical models by means of CFA. Due to the categorical nature of the data, we used the WLSMV estimator. In Model 1 we sought to test whether our 43 items loaded on a unidimensional latent structure. In Model 2a we tested a model of three uncorrelated latent factors and in Model 2b we tested three correlated latent factors (Positive Schizotypy, Anhedonia, and Cognitive Disorganization). In Model 3a we performed a model of four uncorrelated latent factors, and in Model 3b we tested four correlated latent factors (plus Impulsive Nonconformity). In Model 4, a bifactor model with three factors (Model 4a) and four factors (Model 4b) was tested. Finally, in Model 5 ESEM model with three (Model 5a) and four factors (Model 5b) was performed. The goodness-of-fit indices employed were: Chi-square, the Comparative Fit Index (CFI), the Tucker–Lewis Index (TLI), the Root Mean Square Error of Approximation (RMSEA) (and 90% confidence interval), and Weighted Root Mean Square Residual (WRMR). To achieve a good fit of the data to the model, the values of CFI and TLI should be over 0.95 and the RMSEA values should be under 0.08 for a reasonable fit and under 0.05 for a good fit (Hu & Bentler, 1999). For the WRMR values, a value below 1.0 has been suggested as indicative of adequate model fit.

Third, in order to test measurement invariance, successive multigroup CFAs were conducted. Basically, a hierarchical set of steps are followed whereby measurement invariance is tested, typically starting with the determination of a well-fitting multi-group baseline model and continuing with the establishment of successive equivalence constraints in the model parameters across groups. Delta parameterization was used (Muthén & Muthén, 1998–2012). In the first step we established the configural invariance model, in which items were constrained to load on the same factors across groups, but all item thresholds and factor loadings were free to vary across groups. In a second step we established a strong invariance model, which contained cross-group equality constraints on all factor loadings and item thresholds.

To determine if nested models are practically equivalent the change in CFI (ΔCFI) was used (Cheung & Rensvold, 2002). In this study, when ΔCFI is greater than 0.01 between two nested models, the more constrained model is rejected since the additional constraints have produced a

**Table 1**
Descriptive statistics for all measures.

| | Mean | *SD* | Skewness | Kurtosis | Range | Alpha |
|---|---|---|---|---|---|---|
| *sO-LIFE* | | | | | | |
| Positive Schizotypy | 2.32 | 2.21 | 1.16 | 1.28 | 0–11 | 0.87 |
| Anhedonia Introvertive | 4.12 | 2.67 | 0.38 | −0.56 | 0–11 | 0.85 |
| Cognitive Disorganization | 1.50 | 1.36 | 1.36 | 3.12 | 0–10 | 0.85 |
| Impulsive Nonconformity | 2.55 | 1.81 | 0.73 | 0.19 | 0–10 | 0.78 |
| *SPQ-BR* | | | | | | |
| Ideas of reference/suspiciousness | 15.90 | 4.27 | 0.02 | −0.33 | 6–29 | 0.77 |
| No close friends/constricted affect | 12.94 | 4.45 | 0.64 | −0.02 | 6–30 | 0.77 |
| Odd behaviour | 7.41 | 3.28 | 1.05 | 0.87 | 4–20 | 0.85 |
| Excessive social anxiety | 10.20 | 3.70 | 0.28 | −0.44 | 4–20 | 0.84 |
| Magical thinking | 6.62 | 3.01 | 1.35 | 1.78 | 4–20 | 0.76 |
| Odd speech | 10.20 | 3.33 | 0.32 | −0.33 | 4–20 | 0.78 |
| Unusual perceptual experiences | 6.24 | 2.57 | 1.43 | 2.16 | 4–19 | 0.72 |
| *TEPS* | | | | | | |
| Anticipatory | 43.34 | 6.92 | −0.27 | −0.02 | 15–60 | 0.71 |
| Consummatory | 34.10 | 6.90 | −0.32 | −0.12 | 10–48 | 0.70 |

*Note.* sO-LIFE = Oxford–Liverpool Inventory of Feelings and Experiences short version; SPQ-BR = Schizotypal Personality Questionnaire—Brief Revised; TEPS = Temporal Experience of Pleasure Scale.

practically worse fit. However, if the change in CFI is less than or equal to 0.01, it is considered that all specified equal constraints are tenable, and therefore, it is possible to continue with the next step in the analysis of measurement invariance. However, when this criterion is not met and some of the parameters (e.g., factorial loadings) are not specified to be equal across groups, partial measurement invariance can be considered.

Fourth, Ordinal alpha was calculated as a estimation of the reliability of the sO-LIFE scores. It is conceptually equivalent to Cronbach's alpha and it performs well for dichotomous data (Zumbo, Gadermann, & Zeisser, 2007). Finally, we analysed the relation between the measuring instruments through Pearson's correlations. SPSS 15.0 (Statistical Package for the Social Sciences, 2006) was used to compute descriptive statistics and Pearson's correlations; FACTOR 9.2 (Lorenzo-Seva & Ferrando, 2013) was used to perform Ordinal alpha; and Mplus 7.0 (Muthén & Muthén, 1998–2012) was used to study factorial structure and measurement invariance across gender.

## 3. Results

### 3.1. Descriptive statistics and reliability estimations

Table 1 shows the descriptive statistics for the sO-LIFE, SPQ-BR, and TEPS subscales. As it can be seen, the Ordinal alpha estimations for the sO-LIFE scores ranged between 0.78 and 0.85.

### 3.2. Evidence based on the internal structure of the sO-LIFE scores

Table 2 shows the goodness-of-fit indices for the models tested. As can be seen, the CFA three and four-factor models presented adequate goodness-of-fit indices. Furthermore, both bifactor and ESEM models also fitted well to the data. ESEM three and four-factor models presented the best goodness-of-fit indices in comparison with other competing models. In the case of bifactor models, several factor loadings were low and non-statistically significant. The standardized factor loadings for these ESEM models were high and all statistically significant. Therefore, and based on previous theoretical models of schizotypy, on parsimony criteria, and higher goodness-of-fit indices we have chosen the three factor model of the ESEM approach as more adequate. The standardized factor loadings for this model are shown in Table 3. The correlation between latent factors ranged from 0.19 (Cognitive Disorganization–Anhedonia) to 0.55 (Positive Schizotypy–Cognitive Disorganization) ($p < 0.01$).

### 3.3. Measurement invariance of the sO-LIFE across gender

Given that the three-factor ESEM model evidenced the best fit, we next tested the measurement equivalence of this model across gender. Prior to the analysis of measurement invariance we tested whether this model showed a reasonable good fit to the data in each group separately (male and female). As it can be seen in Table 4, in both groups the models fit the data well. The configural invariance model in which no equality constraints were imposed showed an adequate fit to the data. A strong invariance model was then tested with the factor loadings and threshold constrained to be equal across groups. The ΔCFI between the constrained and the unconstrained model was higher than 0.01, indicating that several parameters of the items (i.e., factorial loadings and threshold) were non-invariant. Three factor loadings and thresholds were relaxed (items 8, 9, and 39). Once these parameters were relaxed the strong invariance model showed good fit to the data. The ΔCFI between the constrained and the unconstrained model was under 0.01, indicating that partial strong measurement invariance by gender was supported.

**Table 2**
Goodness-of-fit indices resulting from the dimensional models tested.

| Model | $\chi^2$ | *df* | CFI | TLI | RMSEA (90% CI) | WRMR |
|---|---|---|---|---|---|---|
| 1 One-dimensional | 1872.5 | 860 | 0.838 | 0.830 | 0.034 (0.032–0.036) | 1.503 |
| 2a Three factors uncorrelated | 2661.1 | 495 | 0.553 | 0.524 | 0.066 (0.064–0.069) | 2.559 |
| 2b Three factors correlated | 938.1 | 492 | 0.908 | 0.901 | 0.030 (0.027–0.033) | 1.229 |
| 3a Four factors uncorrelated | 4477.2 | 860 | 0.422 | 0.391 | 0.065 (0.063–0.067) | 2.825 |
| 3b Four factors correlated | 1496.6 | 854 | 0.907 | 0.891 | 0.027 (0.025–0.030) | 1.301 |
| 4a Bifactor model with three factors | 1363.4 | 827 | 0.914 | 0.906 | 0.025 (0.023–0.030) | 1.209 |
| 4b Bifactor model with four factors | 1311.1 | 817 | 0.921 | 0.913 | 0.025 (0.022–0.027) | 1.175 |
| 5a ESEM with three factors | 592.4 | 432 | 0.967 | 0.960 | 0.019 (0.015–0.023) | 0.895 |
| 5b ESEM with four factors | 956.9 | 737 | 0.965 | 0.957 | 0.017 (0.014–0.022) | 0.886 |

*Note.* $\chi^2$ = Chi-square; *df* = Degrees of Freedom; CFI = Comparative Fit Index; TLI = Tucker–Lewis Index; RMSEA = Root Mean Square Error of Approximation; CI = Confidence Interval; WRMR = Weighted Root Mean Square Residual; ESEM = Exploratory Structural Equation Modelling.

**Table 3**
Standardized factor loadings for the three-factor of the exploratory structural equation model.

| | Factor | | |
|---|---|---|---|
| Items | I | II | III |
| 33 | 0.69 | −0.08 | −0.11 |
| 6 | 0.76 | −0.34 | 0.01 |
| 38 | 0.89 | −0.49 | 0.03 |
| 18 | 0.43 | 0.33 | −0.02 |
| 23 | 0.66 | −0.22 | −0.08 |
| 27 | 0.68 | 0.13 | −0.31 |
| 10 | 0.75 | −0.19 | 0.05 |
| 15 | 0.65 | 0.09 | −0.08 |
| 29 | 0.56 | 0.07 | −0.21 |
| 1 | 0.73 | −0.01 | −0.19 |
| 40 | 0.76 | −0.17 | −0.03 |
| 32 | 0. 43 | 0.03 | −0.28 |
| 39 | −0.02 | 0.56 | 0.06 |
| 26 | 0.10 | 0.42 | 0.19 |
| 16 | 0.25 | 0.46 | 0.02 |
| 22 | −0.02 | 0.57 | −0.01 |
| 9 | 0.08 | 0.40 | 0.29 |
| 17 | 0.45 | 0.25 | 0.05 |
| 41 | 0.12 | 0.54 | −0.01 |
| 2 | 0.15 | 0.47 | 0.01 |
| 43 | −0.17 | 0.56 | 0.18 |
| 12 | 0.26 | 0.37 | 0.06 |
| 36 | 0.02 | 0.75 | 0.02 |
| 8 | 0.03 | −0.08 | 0.43 |
| 5 | −0.08 | 0.09 | 0.18 |
| 25 | 0.06 | 0.32 | 0.46 |
| 3 | −0.01 | 0.20 | 0.39 |
| 34 | −0.06 | 0.04 | 0.66 |
| 14 | 0.16 | 0.04 | 0.52 |
| 21 | 0.16 | 0.01 | 0.78 |
| 38 | −0.13 | −0.01 | 0.44 |
| 31 | −0.32 | −0.03 | 0.22 |
| 19 | 0.13 | −0.01 | 0.54 |

*Note*. Positive: items 1, 6, 10, 15, 18, 23, 27, 29, 32, 33, 38, and 40; Cognitive Disorganization: items 2, 9, 12, 16, 17, 22, 26, 36, 39, 43 and 41; Introvertive Anhedonia: items 3, 5, 8,14,19,21,25, 28,31, and 34.

### 3.4. Evidence of validity based on relationship with other variables

We calculated the Pearson's correlation between the sO-LIFE, the SPQ-BR facets, and the TEPS subscales. As shown in Table 5, most of the correlations between sO-LIFE dimensions and the SPQ-BR and TEPS subscales were statistically significant. Positive Schizotypy scores were strongly associated with the Unusual Perceptual Experiences subscale of the SPQ-BR. The Cognitive Disorganization dimension was also associated with Odd Speech and Excessive Social Anxiety. Introvertive Anhedonia scores showed strong associations with No Close Friend and Constricted affect subscales of the SPQ-BR and it was inversely related with Anticipatory and Consummatory pleasure of the TEPS. The Impulsive Nonconformity dimension of sO-LIFE showed low correlations with all subscales.

## 4. Conclusions

The main goal of this study was to test the dimensional structure and gather new sources of validity evidence of the sO-LIFE scores in a large sample of non-clinical young adults. To this end, we analysed the internal structure of the sO-LIFE. In addition, measuring invariance across gender was tested. We also estimated the reliability of the scores, and studied the relationship with other measures of schizotypal traits and hedonic capacity. The results suggest that the sO-LIFE scores showed adequate psychometric properties and hold implications for the use of this tool in non-clinical populations. Likewise, the findings have helped to improve our understanding of schizotypy construct with regard to its structure and content. The sO-LIFE is a brief instrument reliably covering a wide variety of schizotypy facets suitable for use in the general population.

The data presented in this study favour the use of the three-factor model as this seems to provide a better representation of the factor structure underlying the sO-LIFE. New measurement models not tested in previous studies, such as bifactor models or ESEM approach, fitted well to the data. In our study the three-factor model of the ESEM approach was the best model in term of goodness-of-fit indices. These new measurement models performed may allow us to capture more in depth the heterogeneity of the schizotypy phenotype as well as take into account the dichotomous nature of the response format. For instance, ESEM approach allows to solve several problems found using the CFA approach (e.g., restriction on the factor loadings) (Marsh et al., 2014).

Although in the present study we used a new measurement approach, previous factorial models tested, using sO-LIFE and CFAs, have demonstrated that both three (without Impulsive Nonconformity dimension) and four-factor models fitted well to the data (Cella et al., 2013). For example, Sierro et al. (in press) comparing both factorial models found that the three-factor solution was superior in term of goodness-of-fit indices than the four-factor solution. Lin et al. (2013), in a sample of individuals at-high risk for psychosis, found lack of consistency for the Impulsive Nonconformity dimension. It is noteworthy that the decision of whether or not to include Impulsive Nonconformity dimension should rely on theoretical grounds (i.e., definition of schizotypy) and research goals (Mason & Claridge, 2006; Sierro et al., in press). For instance, this schizotypy dimension has not been found consistently in independent psychometric studies on schizotypy questionnaires (Kwapil, 1996). The literature consistently holds that schizotypy as well as schizotypal personality are multidimensional constructs made up of three factors (i.e., Cognitive-Perceptual, Interpersonal, and Disorganised). These three dimensions reflect on symptom dimensions reported from patients with schizophrenia, i.e., positive symptoms, negative symptoms, and disorganised symptoms (Liddle, 1987).

Multi-group ESEM showed that the three-factor model had partially strong measurement invariance across gender. Only three items showed a differential functioning by gender. These results point to a possible measurement bias and inform that three items are non-equivalent across gender in this sample. Although the study of measurement invariance is understudied in the schizotypy field, these results are similar to other

**Table 4**
Goodness-of-fit indices of measurement invariance across gender.

| Model | $\chi^2$ | *df* | CFI | TLI | RMSEA (90% CI) | WRMR | ΔCFI |
|---|---|---|---|---|---|---|---|
| Male ($n = 268$) | 439.7 | 432 | 0.997 | 0.997 | 0.005 (0–0.022) | 0.707 | |
| Female ($n = 734$) | 547.3 | 432 | 0.966 | 0.958 | 0.019 (0.014–0.024) | 0.872 | |
| Configural invariance | 971.3 | 864 | 0.976 | 0.967 | 0.016 (0.009–0.021) | 1.122 | |
| Strong invariance | 1142.1 | 984 | 0.960 | 0.957 | 0.018 (0.013–0.022) | 1.366 | +0.01 |
| Partial strong invariance | 1076.1 | 978 | 0.975 | 0.973 | 0.014 (0.017–0.019) | 1.334 | −0.01 |

*Note*. $\chi^2$ = Chi-square; *df* = Degrees of Freedom; CFI = Comparative Fit Index; TLI = Tucker–Lewis Index; RMSEA = Root Mean Square Error of Approximation; CI = Confidence Interval; WRMR = Weighted Root Mean Square Residual; ΔCFI = Change in Comparative Fix Index.

**Table 5**
Pearson's correlations between the Oxford–Liverpool Inventory of Feelings and Experiences short version (sO-LIFE), the Schizotypal Personality Questionnaire—Brief Revised (SPQ-BR), and the Temporal Experience of Pleasure Scale subscales.

| SPQ-BR | sO-LIFE | | | |
|---|---|---|---|---|
| | Positive Schizotypy | Cognitive Disorganization | Introvertive Anhedonia | Impulsive Nonconformity |
| Ideas of reference/Suspiciousness | 0.36** | 0.39** | 0.18** | 0.29** |
| Magical thinking | 0.46** | 0.14** | −0.01 | 0.19** |
| Unusual perceptual experiences | 0.52** | 0.34** | 0.06 | 0.27** |
| Odd speech | 0.30** | 0.43** | 0.05 | 0.30** |
| Odd behaviour | 0.25** | 0.31** | 0.27** | 0.27** |
| No close friends/constricted affect | 0.10** | 0.34** | 0.39** | 0.12** |
| Excessive social anxiety | 0.18** | 0.46** | 0.29** | 0.11** |
| *TEPS* | | | | |
| Anticipatory | 0.23** | 0.22** | −0.20** | 0.17** |
| Consummatory | 0.10** | 0.08* | −0.23** | 0.04 |

* $p < 0.05$.
** $p < 0.01$.

studies that have found factorial equivalence of the scores across groups. For instance, Sierro et al. (in press) found acceptable fit indices testing measuring invariance across language (French, English) of the sO-LIFE scores for both three and four-factor solutions. Similar results have been found using other self-report measures such as SPQ Brief version (Fonseca-Pedrero, Paíno, Lemos-Giráldez, Sierra-Baigrie, & Muñiz, 2011). It should be stressed that if measurement invariance does not hold, the validity of such scores should be questioned. In this regard, the comparability between different groups only makes sense if it can be guaranteed that participants interpret and understand the items of the latent construct in a similar manner (Byrne, 2008).

The reliability of the sO-LIFE scores, estimated with Ordinal alpha, was above 0.78. These levels of internal consistency were adequate and are in line with the internal consistency values reported in previous studies. Previous works using Ordinal alpha have found good reliability estimates (Lin et al., 2013; Sierro et al., in press), but others using Guttman's *lambda2* did not (Cella et al., 2013). Furthermore, the sO-LIFE scores showed good convergent and discriminant validity with SPQ-BR and TEPS. Results from the data showed expected correlations with other self-report instruments. Previous studies, using sO-LIFE, found that the participants with high scores have shown high levels of neuroticism, less close friends, psychological distress, and family history of psychosis (Cella et al., 2013; Sierro et al., in press). In addition, in a help-seeking sample, the schizotypy dimensions of the sO-LIFE were differentially associated with psychopathology, social functioning, and quality of life (Lin et al., 2013). Similar results were found when schizotypy facets and schizotypal traits were studied in relation with cognitive, emotional and personality measures, and clinical variables (Cohen et al., 2015; Ettinger et al., 2014). This data may improve our knowledge about the nomological network of schizotypy construct and the expression of the liability of psychosis in samples of general population.

The findings of the present study should be interpreted in the light of the following limitations. First of all, the participants were college students and this fact precludes the generalization of the results to other populations of interest and may impact on the factorial solution found. Second, we did not use an infrequency response scale in order to detect those participants that displayed random or pseudo-random patterns of responses. Future studies should look deeper into the analysis of sO-LIFE scores across cultures, its predictive validity in follow-up studies, and share data in a big-data projects.

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