

## Original Article

# Validation of the short Oxford-Liverpool Inventory of Feelings and Experiences (SO-LIFE) on an Iranian sample

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### Abstract

The Oxford-Liverpool Inventory of Feelings and Experiences (O-LIFE) is a 104-item instrument that has been designed based on a factor analysis of 15 existing scales for the measurement of schizotypy. The present study was an attempt to validate the short form of the O-LIFE (SO-LIFE). This study was a correlational research wherein a sample of four hundred and sixty-eight participants was selected among Tabriz Payame Noor university students via a stratified random sampling in 2022. The data was analyzed using factor analysis. Factor analysis using principal component analysis (PCA) with Promax rotation extracted four factors including cognitive disorganization, impulsive nonconformity, unusual perceptual experiences, and introversive anhedonia. Concurrent validity coefficient of the scale was equal to 0.85 and the correlation coefficient between the total scale and the subscales ranged from 0.46 to .75. Differential validity was tested by comparing SO-LIFE scores between schizophrenic patients, their first degree relatives and normal people which was acceptable. In the same way, test-retest reliability and internal consistency reliability of the scale were equal to 0.83 and 0.75 respectively. The findings of this study revealed some information about the psychometric properties of the O-LIFE short form in an Iranian sample. It was also found that this questionnaire, as a valid instrument, had applications in research on schizophrenia spectrum disorders in Iran.

The employment of this questionnaire can help develop a comprehensive body of research wherein accurate measurement of schizotypy would be of particular importance.

### Keywords

Schizotypy  
Short version of  
schizotypal Oxford-  
Liverpool Inventory  
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Experiences  
Assessment  
Validity  
Reliability

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### Introduction

Schizophrenia is not only a debilitating condition with severe relapses to patients and their relatives, but it also imposes moral and economic costs on society (Olesen, et al., 2012, Gaillard et al., 2022, Rajaei et al., 2022, Abolalaei et al., 2022). Therefore, the growing need for the early and proper diagnosis has led to the production of necessary incentives for conducting clinical research to identify populations at high risk for developing schizophrenia (Wang et al 2024; Frattaroli et al, 2022). Early efforts in this regard date back to fifty years ago when children with mental disorders were labeled as “at-risk” (Pearson & Kley, 1957). Unlike the concept of at high risk for the development of schizophrenia in genetic interfamilial terms, psychosis-proneness continuum theory has been proposed at high levels of psychoticism

personality traits that are linked to schizophrenia (Eysenck, 1992). Schizophrenia spectrum disorders seem to be best understood as an extreme manifestation of a dynamic continuum of clinical and non-clinical symptoms termed schizotypy (Hernández et al, 2023; Chirica et al, 2024; Olah et al, 2023). Schizotypy is a personality trait that plays a role in the liability for psychosis in general and schizophrenia in particular (Rasmussen et al., 2022, Pfarr et al., 2023). The term “schizotypy” was used for the first time by Rado (1953) and Meehl (1962). They did not define schizotypy as a neurological phenomenon but rather as a form of personality organization which was created as a result of a special biological talent. They adopted schizotaxia for this form of personality organization. The concept of psychosis continuum is supported by scientific evidence that has demonstrated psychotic-like experiences in the

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general population (O'Kane et al., 2022, Olah et al., 2023, Wang et al., 2024). Historically, the fundamental work done by Claridge and his colleagues has strengthened one's understanding of the concept of schizotypy by showing the differences between quasi-dimensional and full-dimensional models of schizotypy and schizophrenia (Claridge, 2018). A quasi-dimensional or psychiatric model is attributed to Meehl (1962) that has been established on the basis of the interaction between genetic predisposition, i.e. schizotaxia and the environment. Meehl (1962) has suggested that vulnerability to psychosis accounts for a small percentage of society and relates to a single gene called "schizo-gene", which leads to hypokrisia (a type of synaptic deviation). Schizotaxia alone cannot culminate in psychosis, but it can lead to full schizophrenia in interaction with environmental factors (Tan et al., 2022). A quasi-dimensional model has been generally supported by taxometric studies (Haslam et al., 2012). On the contrary, a full-dimensional model presents a description of a continuum among personality traits, genetic changes, and cognitive modes. The advantage of full-dimensional models is that they provide a framework for describing interpersonal variability and integrate the majority of the elements in the quasi-dimensional models (Claridge, 2018).

In recent decades, the concept of schizotypal continuum or schizophrenia has been theorized and proved in the general population as high incidence of unusual transient experiences (Tonini et al., 2022). Thus, schizotypal traits and schizophrenic psychosis have been conceptualized as different points on a continuum (O'Hare & Linscott 2023). These points are indicative of some degrees of risk based on the assumptions of the stress-vulnerability models (Rasmussen et al., 2024).

There are three major approaches in the measurement of psychosis-like features. The first one is the character-driven approach that examines predisposition to psychosis in the form of a quasi-hereditary pattern reflected in personality traits. Eysenck's psychoticism scale can be used in this approach. The second one is the symptom-based approach that measures psychosis-like features based on the Diagnostic and Statistical Manual of Mental Disorders (DSM). The Schizotypal Traits Questionnaire (STQ; Claridge & Broks 1984) and the Schizotypal Personality Questionnaire (SPQ; Raine, 1991) fall into this category. The third one is the syndrome-centered approach. In this approach, psychosis-like features are measured that are beyond the Diagnostic and Statistical Manual of Mental Disorders (DSM). Wisconsin's Schizotypal Scales and Oxford-Liverpool Inventory of Feelings and Experiences fall into this approach.

The Oxford-Liverpool Inventory of Feelings and Experiences (O-LIFE) is an instrument wherein the DSM criteria and the heterogeneous schizotypal nature as well as other schizotypal symptoms are taken into account. This questionnaire which is one of the most comprehensive measures has recently been developed by Mason et al (1995) based on a factor analysis of 15 existing scales to assess schizotypy, and also it has

recently been re-examined entitled Mason et al (2005)'s short version. The instruments constructed in this area either have been severely affected by the DSM (e.g., STA, SPQ) or evaluate a small range of schizotypal limits (such as the Perceptual Aberration Scale (PAS) and the scale illusion). The O-LIFE is a scale that compensates for these limitations and takes into account the DSM criteria and the heterogeneous schizotypal nature. Then it covers other schizotypal symptoms. The majority of the schizotypal scales measure three factors along with the three symptoms of schizophrenia (Kwapil et al., 2022). The first factor is related to deviated or abnormal beliefs, perceptions, and experiences. Moreover, this factor encompasses the mild and subclinical form of some positive symptoms of psychosis, such as hallucinations and delusions. The second schizotypal factor refers to the non-clinical form of non-cognitive failures and problems, such as thought obstruction and attentional problems whose amalgamation leads to increased social anxiety. The third factor is introvertive anhedonia which is somehow the minor non-clinical form of negative symptoms of psychosis, such as social withdrawal and inability to experience pleasure (Gooding, 2023). Additionally, the O-LIFE has recognized a fourth schizotypal factor entitled anti-social behavior. Indeed, this factor better clarifies the heterogeneous schizotypal nature. This factor approves of Eysenck's understanding of psychoticism concept that was invalid for researchers due to the absence of any relation between it and clinical schizotypal criteria. Moreover, this factor shows that schizotypy is a heterogeneous multi-dimensional construct that entails a range of symptoms observed in mental disorders such as bipolar disorder, OCD as well as borderline and antisocial personality disorders in addition to specific schizotypal symptoms reflected in the DSMs (Mason et al., 2005). In the most recent survey conducted on this questionnaire, Fonseca-Pedrero et al. (2015) have studied the psychometric properties of the short form of the questionnaire among university students. According to the results of the mentioned survey, three- and four-factor solutions have been proposed for the (SO-LIFE). It is notable that the three-factor solution was more capable to explain the data. The reliability of the identified subscales ranged from .78 to .87. This questionnaire has shown to have acceptable concurrent validity with other schizotypal instruments such as the Schizotypal Personality Questionnaire-Brief Revised (SPQ-BR).

Due to the reputation of the O-LIFE, the present study aims to validate the scale's short version in Iranian samples, so that it can be used in the studies related to psychosis. The absence of the research findings on the psychometric properties of this scale in Iranian society was the main motive behind this study. In fact, these questionnaires were selected as the best choice for the preparation of its usage in Iran, since they enjoy theoretical relevance in research and cover all the symptoms associated with schizotypy. Principal component analysis (PCA) and the evaluation of validity and reliability of the SO-LIFE were the main objectives of this study.

## Method

### Participants

The present study is a correlational research. All male and female students of Payame Noor University of Tabriz constituted the population of this study. Among them, 468 participants were selected by the stratified sampling according to Morgan's table. These participants were placed in the 18-26 year-old group. Among the sample, 281 participants were females (mean and SD were 20.43 and 1.48 years respectively), 183 participants were males (mean and SD were 20.8 and 1.39 years respectively), and four participants did not respond to the questionnaire. Then, the participants were asked questions about suffering from possible serious mental disorders and a history of schizophrenia disorders. There were almost no cases of mental disorders. In terms of marital status, 418 participants were married, 41 were single, and 19 did not specify their marital status.

The (SO-LIFE) was first translated into Persian. Afterwards, two experts in English language were asked to back-translate the Persian items into English. Then, the resulting test was conducted on some examinees as a pilot study and the existing pitfalls were corrected for the final application. After the selection of classrooms, the items of the questionnaire were provided with the examinees and they were informed about the necessity of providing yes/no responses to the items and the existence of no time limitation. Furthermore, the Schizotypy Traits Questionnaire A form (STA) was applied as the second instrument for the exploration of concurrent validity on 80 individuals. For the observance of research ethics and participants' rights, it was announced to the subjects that participation in the study would be voluntary. Finally, the data were analyzed using exploratory factor analysis of PCA, independent t-test, and Pearson correlation test.

### Instrument

#### *The Short Version of Schizotypal Oxford-Liverpool Inventory of Feelings and Experiences (SO-LIFE) Questionnaire:*

This questionnaire contains 43 items developed by Mason et al. (2005) based on the 104-item version that assesses schizotypal traits in clinical and non-clinical samples. The SO-LIFE consists of four subscales namely unusual perceptual experiences (deviated ideas and perceptions), cognitive disorganization, introverted anhedonia, and impulsive nonconformity (anti-social behavior). Fonseca-Pedrero et al. (2015) examined the construct validity of the scale and proposed three- and four-factor solutions for this questionnaire. The reliability of the detected subscales ranged from .78 to .87.

#### *The Schizotypy Traits Questionnaire A form (STA):*

This scale has been developed to measure schizotypal personality patterns and mainly evaluate positive schizotypal symptoms. The STA contains 37 yes/no items with zero for the answer "no" and one for the answer "yes". It encompasses three factors, including unusual perceptual experiences, paranoid ideation/social anxiety, and magical thinking. In the same way, Rawlings et al. (2001) reported the internal consistency reliability coefficient of .85 for this scale. The concurrent validity of the STA with the neuroticism scale of Eysenck Personality Questionnaire (EPQ) has been reported in the original cultural background to be .61. Mohamadzadeh et al. (2007) validated the STA and explored the psychometric properties of this scale in Iran. The concurrent validity of the scale and its factors with the neuroticism scale of EPQ-R (the revised version) were reported to be .73, .50, .55, and .69 respectively. It is also noteworthy that the STA also enjoyed desirable factor analysis and discriminant validity. In addition, test-retest reliability coefficient of .86 was obtained for the total scale during a 4-week interval while this coefficient was equal to .56, .75, and .59 for unusual perceptual experiences, paranoid ideation/social anxiety, and magical thinking respectively.

### Procedure

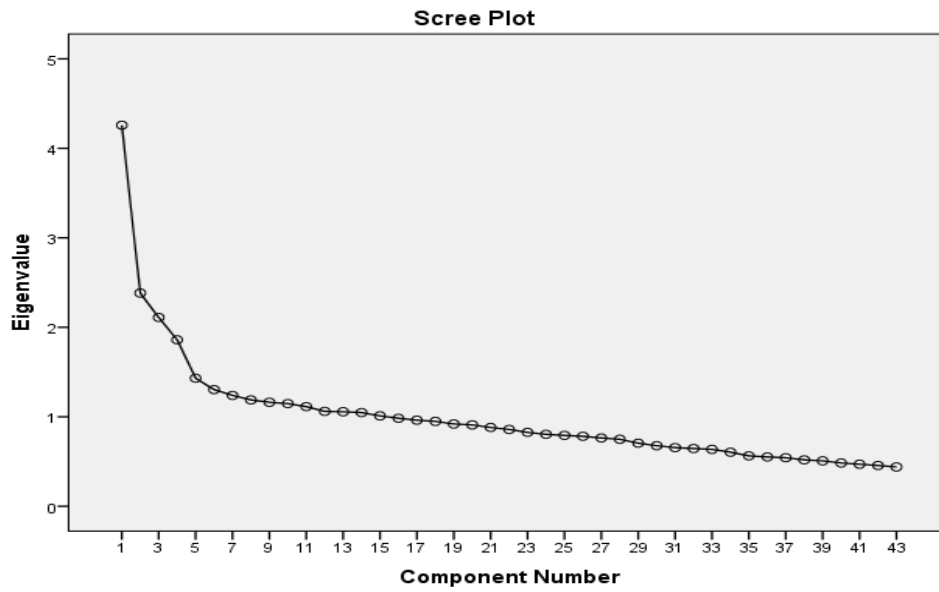
The participants fulfilled the measurement instruments in a group session (10 to 50 students). They were informed about the research and were asked to complete anonymous questionnaires. They received no incentive for taking part in the study. The administrations of the instruments were under the supervision of a researcher. Data were analyzed using factor analysis with Promax rotation.

## Results

### Factorial Validity

The first capability of factor analysis was investigated via the Kaiser-Meyer-Olkin (KMO) and the Bartlett's test of sphericity. Accordingly, the KMO value of .74 represented the sampling adequacy and significance of Bartlett's sphericity test ( $P = .0001, 2487.07$ ). It showed that the correlation matrix of data was not zero in the population; therefore, factor loading was justified.

Then, exploratory factor analysis and PCA with Promax rotation were used to determine the factor structure of the scale. The items with factor loadings equal to or above .30 were included in a single factor. Table 1 shows factor loading of each item after Promax rotation. Totally, 16 factors had eigenvalues higher than one and accounted for 54.34 percent of the observed variance. The drawing of eigenvalue (Fig. 1) and factor loadings proposed five factors. These factors were retained and were then exposed to orthogonal Promax rotation. Overall, three main factors accounted for 24.67 percent of the total variance.



**Table 1.** The SO-LIFE’s factors and factor loadings associated with each item

Item	Factor			
	I	II	III	IV
17	0.62			
14	0.57			
19	0.55			
22	0.55			
13	0.50			
21	0.50			
15	0.39			
16	0.38			
23	0.34			
20	0.32			
17	0.30			
38		0.59		
35		0.55		
41		0.54		
34		0.48		
40		0.48		
42		0.43		
43		0.41		
39		0.38		
37		0.38		
36		0.33		
5			0.56	
3			0.54	
10			0.52	
8			0.51	
1			0.45	
6			0.42	
4			0.39	
7			0.37	
2			0.32	
9			0.30	
12			0.29	
30				0.65
25				0.51
33				0.47
28				0.44
29				0.39
26				0.38
31				0.36
24				0.34
31				0.33
27				0.33

Item 11 had a factor loading less than 0.30 and therefore was removed from the factor analysis

The item number 23 was omitted since it had a factor loading lower than .30.

The first factor (11 items) had an eigenvalue equal to 4.25 and accounted for 9.90 percent of the observed variance. This factor was called “cognitive disorganization”. It consisted of items such as “Do you often have difficulties controlling your thoughts?”

The second factor (10 items) was named “impulsive nonconformity” and held an eigenvalue of 2.38 that explained 5.54 percent of the total variance. It contained items such as “Do you at times have an urge to do something harmful or shocking?”

The third factor (11 items) had an eigenvalue equal to 2.11 and justified 4.9 percent of the variance. This factor was labeled “unusual perceptual experiences” and included items such as, “Do you think you could learn to read other’s minds if you wanted to?”

The fourth factor (10 items) had an eigenvalue equal to 1.5186 and accounted for 4.32 percent of the variance. This factor was called “introvertive anhedonia” and contained such questions as “Do you like mixing with people?”

**Inter-correlations**

In the present study, the internal consistency of each subscale was extracted as another indicator of reliability, as summarized in Table 2. According to this table, the correlations among the SO-LIFE and four subscales, namely cognitive disorganization, impulsive nonconformity, unusual perceptual experiences, and introvertive anhedonia are equal to .75, .65, .61, and .46 respectively. Therefore, it enjoys desirable internal consistency. In addition, the correlations among the factors also range from .10 to .33 (p<0.01).

**Table 2.** Internal consistency of the scores of subscales with each other and with the SO-LIFE

	SO-LIFE	First factor	Second factor	Third factor	Fourth factor
SO-LIFE	-				
First factor	.75*	-			
Second factor	.65*	.33*	-		
Third factor	.61*	.22*	.24*	-	
Fourth factor	.46*	.20*	.10*	-.02	-

\* Correlations are significant at the level of .05 (n = 468)

**Concurrent Validity**

The simultaneous administration of the Schizotypy Traits Questionnaire (STA) was used to examine the concurrent validity. For this purpose, 80 subjects randomly responded to both questionnaires at the same

time. The results of Pearson correlation test revealed the correlation of .85 between the two questionnaires (p<0.01). Table 3 summarizes the results of this part of the research.

**Table 3.** Results of concurrent validity of the scale

	SO-LIFE	First factor	Second factor	Third factor	Fourth factor
STA	.85*	.76*	.69*	.62*	.21

\* (p<0.01) (n = 80)

**Differential Validity**

In order to examine the differential validity of the SO-LIFE, it was administrated on three groups of people as follows: patients with schizophrenia (n=32), their first degree relatives (n=55) and normal people (n= 41). The patients were selected from Tabriz psychiatric hospitals by the author and a psychiatrist using DSM-5 criteria for diagnosis. Patients were matched with normal participants according to age and sex variables.

Comparison by means of the one-way analysis of variance (using scheffe post hoc test) reveals statistically significant groups differences (Table 4). On the total score of SO-LIFE, patients with schizophrenia and their first degree relatives tend to score higher than normal people, respectively.

The mean scores of three groups in SO-LIFE and its factors are summarized in Table 4.

**Table 4.** Groups mean and standard deviation of scores in SO-LIFE

groups variables	schizophrenia		first-degree relatives		Normal	
	mean	SD	mean	SD	mean	SD
SO-LIFE	16.31	3.12	7.45	2.35	3.57	1.26
Cognitive Disorganization	2.38	1.41	1.87	1.58	0.98	0.77
Impulsive Nonconformity	4.41	1.11	3.33	1.76	1.13	0.89
Unusual Perceptual Experience	4.02	1.23	2.08	1.41	1.19	0.42
Introvertive Anhedonia	3.52	1.44	2.26	1.63	1.03	0.88

Table 5 compares the results of one-way analysis of variance based on scores in SO-LIFE and its factors

which have earned.



**Table 5.** Results of one-way analysis of variance in SO-LIFE

	Sources	Sum of Square	df	Mean Square	F	P Value
SO-LIFE	Between group	4093.13	2	2046.56	154.87	0.001
	Within group	1651.83	125	13.21		
	Total	5744.96	127			
Cognitive Disorganization	Between group	536.95	2	268.47	61.76	0.001
	Within group	543.35	125	4.34		
	Total	1080.30	127			
Impulsive Nonconformity	Between group	309.49	2	154.74	49.96	0.001
	Within group	411.87	125	3.29		
	Total	721.36	127			
Unusual Perceptual Experience	Between group	171.25	2	85.62	18.12	0.001
	Within group	590.67	125	4.72		
	Total	761.93	127			
Introvertive Anhedonia	Between group	130.39	2	65.19	24.18	0.001
	Within group	336.97	125	2.69		
	Total	467.36	127			

The above table shows significantly differences between schizophrenia, first-degree relatives and normal groups. In order to determine significant differences between paired groups in SO-LIFE, Scheffe's multiple comparison tests was used, According to results:

1- The SO-LIFE scores significantly different between patients with schizophrenia and normal individuals, and schizophrenics have more scores.

2- The SO-LIFE scores significantly different between patients with schizophrenia and their first degree relatives, and schizophrenics have more scores.

3- The SO-LIFE scores significantly different between their first degree relatives and normal individuals, and first degree relatives have more scores.

According to table, comparison based on the SO-LIFE subscales indicates that:

4- All SO-LIFE subscales scores significantly different between patients with schizophrenia and normal individuals, and schizophrenics have more scores.

5- All SO-LIFE subscales scores significantly different between patients with schizophrenia and their first degree relatives, and schizophrenics have more scores.

6- All SO-LIFE subscales scores significantly different between their first degree relatives and normal individuals, and first degree relatives have more scores.

#### **Test-retest Reliability**

45 participants were voluntarily selected for sampling and they were re-examined twice within 4 weeks to determine the test-retest reliability of the scale.

The reliability coefficient of the total SO-LIFE was shown to be equal to .83 and the reliability coefficients of the subscales, i.e. cognitive disorganization, impulsive nonconformity, unusual perceptual experience, and introvertive anhedonia were equal to .65, .47, .72, and .55 respectively. All coefficients were significant ( $p < 0.01$ ).

#### **Internal consistency**

Cronbach's alpha coefficient was used to assess the internal consistency reliability of the scale. According to the results, the Cronbach's alpha coefficient for the total SO-LIFE was equal to .75. Cronbach's alpha coefficients for the subscales of cognitive disorganization, impulsive nonconformity, unusual

perceptual experience, and introvertive anhedonia were equal to .7, .66, .61, and .53 respectively ( $p < 0.01$ ). These values were satisfactory.

#### **Discussion**

In the factor analysis of the SO-LIFE, PCA through Promax rotation was used and four factors were extracted as follows: cognitive disorganization, impulsive nonconformity, unusual perceptual experiences, and introvertive anhedonia. The factors derived in this study are almost similar to those obtained in previous factor analyses done by [Mason et al. \(1995\)](#), [Mason & Claridge \(2006\)](#), and [Yaghoubi & Mohammadzadeh \(2012\)](#) using the original form of the questionnaire, and [Mason et al. \(2005\)](#) and [Fonseca-Pedrero et al. \(2015\)](#) using the short form of the questionnaire. In general, cognitive disorganization measures the aspects related to attentional poverty, lack of concentration, loss of decision-making power, and social schizotypal anxiety. This factor reflects thought disorder and other disorders in psychosis. Impulsive nonconformity describes impulsivity and antisocial queer behaviors in schizotypy. The unusual perceptual experiences factor includes items that are used to describe perceived deviations, magical thinking, and delusions which represent positive schizotypal semiotics. Therefore, this factor refers to positive schizotypy. Introvertive anhedonia and tendency to isolation refer to the absence of enjoyment and pleasure from pleasant physical and social resources as well as avoidance of intimacy and preference of loneliness. This factor represents schizoid and schizotypal mood and is called positive schizotypy. The current findings pertaining to the factor structure and their alignment with previous similar research findings confirm the construct validity of the SO-LIFE.

In addition to the factorial validity, the correlations among these factors as well as the relations of the factors to the total scale were calculated for the verification of validity. The results show that all the factors are highly correlated with the total scale. On the other hand, the correlations among factors are low and medium. Therefore, although the above factors are

highly correlated with the total inventory, they are not highly correlated with each other since each factor is autonomously separate. This indicates the desirable validity of the questionnaire and its factors.

Regarding the concurrent validity of the questionnaire, the current findings indicated that the SO-LIFE and its factors were positively correlated with the Schizotypy Traits Questionnaire (STA). Since the STA is one of the most commonly used schizotypal instruments in various studies (Rawlings et al., 2001), positive correlation of the SO-LIFE with the STA indicates its validity. It is noteworthy that no relationship was observed between the STA and introverted anhedonia (one of the SO-LIFE factors). The reason is that a non-significant relationship can be ascribed to the absence of some items on the measurement of introverted anhedonia in the STA because the STA has been designed on the basis of the clinical patterns of schizotypal personality disorders as mentioned in the DSM. Therefore, a range of schizotypal symptoms that are not placed in the scope of the DSM but are very important (e.g., introverted anhedonia) have been overlooked in this scale. Thus, the absence of a significant correlation with this scale is expected.

According to differential validity, When the SO-LIFE scores were used to differentiate between three groups of participants (schizophrenic, their first degree relatives and healthy people), the mean of the schizophrenic group was different from the first degree relatives and healthy group statistically, and three groups had higher scores on SO-LIFE respectively. Accordingly, the SO-LIFE appears to be a useful measure for differentiating schizophrenic patients and nonclinical high traits on schizotypy cases from normal people in Iranian samples. These results can be discussed in line of phenomenology of schizotypy; at clinical levels of extremity, schizotypal traits are recognized as schizotypal personality disorder and they are not exclusive to the schizophrenia spectrum (Gooding, 2023). At low levels, schizotypal traits are a source of variance in individual differences a vulnerability or prodromal factor for psychosis, and schizophrenia (Rasmussen, et al., 2022).

Test-retest reliability of the total scale and its subscales led to optimal coefficients during a four-week interval indicating that the scale is less likely to undergo state and situational variables and since it measures schizotypal traits, it benefits from a desired stability over time. The results of the internal consistency reliability between the SO-LIFE and its subscales represented the proper reliability of the scale. Furthermore, due to high internal consistency, the same results were obtained under different conditions. This finding is consistent with other research findings supported by Mason et al. (1995), Mason and Claridge (2006), and Yaghoubi and Mohammadzadeh (2012) using the original form of the questionnaire, and Mason et al. (2005) and Fonseca-Pedrero et al. (2015) using the short form of the questionnaire. Most of the correlation coefficients reported in this study were similar to those

reported by the scale's authors in the original references. These findings indicate that the compliance of the original version with that in an Iranian culture has been satisfactorily accomplished.

The results of the present study showed that the schizotypal construct can be measured reliably with the tools obtained from this research. Therefore, the results of our study can be explained in line with theories believe that schizotypy and schizophrenia psychosis are placed on a continuum, which to varying degrees indicate vulnerability to the development of schizophrenia (Mason & Claridge, 2015; Charabi et al., 2019). Based on the results, it seems that SO-LIFE's scale, in addition to the schizotypal symptoms that are reflected in the statistical and diagnostic manual of mental disorders, evaluates other symptoms beyond the DSM-5-TR (American Psychiatric Association, 2022).

## Conclusion

In general, the results of this study show that it is possible to measure schizotypal traits acceptably in non-clinical groups of Iranian society using the SO-LIFE. The employment of this questionnaire can help develop a comprehensive body of research wherein accurate measurement of schizotypy would be of particular importance.

This research also has a limitation that should be considered in interpretation of results. Because it is very difficult to reach and test patients with schizotypal personality disorder in clinical settings, it was not possible to access the clinical group in present study, so it is suggested that the results of the present study be repeated by using clinical samples in future studies so that the psychometrics properties of S-OLIFE in Iranian clinical sample should be investigated more clearly. According to the psychometric properties obtained in the current research, it is suggested to use Iranian version of S-OLIFE in selection of control group (people with schizotypal traits) in studies related to schizophrenia.

## Conflict of interest

No potential conflict of interest was reported by the authors.

## Disclosure Statement

The authors reported no conflict of interest.

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## References

- Abolalaei, A., Atadokht, A., & Basharpour, S. (2022). Comparison of impulsivity, emotional instability, decision making and risky behaviors in patients with bipolar disorder and borderline personality disorder. *Journal of Research in*

- Psychopathology*, 3(10), 1-11. doi: 10.22098/JRP.2022.9579.1041
- American Psychiatric Association. (2022). Diagnostic and statistical manual of mental disorders: DSM-5-TR. Washington, DC: American psychiatric association.
- Charabi, M., Kravariti, E., Eysenck, M. W., & Tsakanikos, E. (2019). Multidimensional factor structure of unusual experiences: New measures of positive schizotypy. *Personality and Individual Differences*, 147, 272-279. doi: 10.1521/pedi.2010.24.3.327
- Chirica, M. G., Zhu, Y., Mu, W., Zhou, H., Gong, J., Chan, R. C., ... & Berenbaum, H. (2024). Exploring phenotypic overlap across schizotypy and autism spectrum conditions in American and Chinese young adults. *Schizophrenia Research*, 267, 359-366. doi: 10.1016/j.schres.2024.03.050
- Claridge, G., & Broks, P. (1984). Schizotypy and hemisphere function: I. Theoretical considerations and the measurement of schizotypy. *Personality and Individual Differences*, 5, 633-648. doi: 10.1016/0191-8869(84)90111-9
- Claridge, G. (2018). *Psychopathology and personality dimensions: The Selected works of Gordon Claridge*. Routledge.
- Eysenck, H.J., (1992). The definition and measurement of psychoticism. *Personality and Individual Differences*, 13, 757-785 doi: 10.1016/0191-8869(92)90050-Y
- Fonseca-Pedrero, E, Ortuño-Sierra J, Mason OJ, Muñiz J. (2015). The Oxford–Liverpool Inventory of Feelings and Experiences short version: Further validation. *Personality and Individual Differences*, 86, 338–343. doi: 10.1016/j.paid.2015.06.041
- Frattaroli, N., Geljic, M., Runkowska, D., Darke, H., Reddyhough, C., Mills, T., ... & Sundram, S. (2022). Cognitive and perceptual impairments in schizophrenia extend to other psychotic disorders but not schizotypy. *Schizophrenia Research: Cognition*, 30, 100266. doi: 10.1016/j.scog.2022.100266
- Gaillard, A., Tan, E. J., Carruthers, S. P., Gurvich, C., Hughes, M. E., Neill, E., ... & Rossell, S. L. (2022). No influence of sex on the relationship between schizotypy factors and executive control across the schizophrenia spectrum. *Journal of Psychiatric Research*, 148, 325-331. doi: 10.1016/j.jpsychires.2022.02.015
- Gooding, D. C. (2023). Social anhedonia and other indicators of risk for schizophrenia: Theory and inquiry. *Psychiatry Research*, 319, 114966. doi: 10.1016/j.psychres.2022.114966
- Haslam, N., Holland, E., Kuppens, P., (2012). Categories versus dimensions in personality and psychopathology: a quantitative review of taxometric research. *Psychological Medicine*, 42, 903–920. doi: 10.1017/S0033291711001966
- Hernández, L. M., Kemp, K. C., Barrantes-Vidal, N., & Kwapil, T. R. (2023). Disorganized schizotypy and neuroticism in daily life: Examining their overlap and differentiation. *Journal of Research in Personality*, 106, 104402. doi: 10.1016/j.jrp.2023.104402
- Kwapil, T. R., Edmundson, M. S., Hernández, L. M., Kemp, K. C., Rbeiz, K. S., Clark, H. E., ... & Barrantes-Vidal, N. (2022). Schizotypal ambivalence is associated with schizophrenia-spectrum and borderline personality traits in young adults: Converging results from three interview studies. *Journal of Research in Personality*, 101, 104312. doi: 10.1016/j.jrp.2022.104312
- Mason, O., Linney, Y., & Claridge, G. (2005). Short scales for measuring schizotypy. *Schizophrenia Research*, 78, 293–296. doi: 10.1016/j.schres.2005.06.020
- Mason, O., & Claridge, G. (2006). The Oxford-Liverpool Inventory of Feelings and Experiences (O-LIFE): Further description and extended norms. *Schizophrenia Research*, 82, 203– 211. doi: 10.1016/j.schres.2005.12.845
- Mason, O., & Claridge, G. (Eds.). (2015). *Schizotypy: new dimensions*. Routledge. doi: 10.4324/9781315858562
- Mason, O., Claridge, G., Jackson, M. (1995). New scale for assessment of schizotypy. *Personality and Individual Differences*, 1, 7- 13. doi: 10.1016/0191-8869(94)00132-C
- Meehl, P.E., (1962). Schizotaxia, schizotypy, schizophrenia. *American Psychology*, 17, 827–838. doi: 10.1037/h0041029
- Mohamadzadeh, A., Goudarzi, M., Taghavi, M. & Mollazadeh, J. (2007). The investigation of factor structure, reliability, validity, and standardization of Schizotypy Traits Questionnaire (STA). *Journal of Psychology*, 11, 41, 3-27.
- O'Hare, K. J., & Linscott, R. J. (2023). Measurement invariance of brief forms of the Schizotypal Personality Questionnaire across convenience versus random samples. *Schizophrenia Research*, 262, 76-83. doi: 10.1016/j.schres.2023.10.033
- O'Kane, T. W., Sledjeski, E. M., & Dinzeo, T. J. (2022). The examination of sleep hygiene, quality of life, and schizotypy in young adults. *Journal of Psychiatric Research*, 150, 1-7. doi: 10.1016/j.jpsychires.2022.03.016
- Olah, J., Diederer, K., Gibbs-Dean, T., Kempton, M. J., Dobson, R., Spencer, T., & Cummins, N. (2023). Online speech assessment of the psychotic spectrum: exploring the relationship between overlapping acoustic markers of schizotypy, depression and anxiety. *Schizophrenia Research*, 259, 11-19. doi: 10.1016/j.schres.2023.03.044
- Olesen, J., Gustavsson, A., Svensson, M., Wittchen, H.-U., Jönsson, B., CDBE2010 study group., European Brain Council. (2012). The economic cost of brain disorders in Europe. *European Journal of Neurology*, 19, 155–162. doi:10.1111/j.1468-1331.2011.03590.x



- Pearson, J.S., Kley, I.B., (1957). On the application of genetic expectancies as age-specific base rates in the study of human behavior disorders. *Psychological Bulletin*, 54, 406–420. doi: 10.1111/j.1468-1331.2011.03590.x
- Pfarr, J. K., Meller, T., Evermann, U., Sahakyan, L., Kwapil, T. R., & Nenadić, I. (2023). Trait schizotypy and the psychosis prodrome: Current standard assessment of extended psychosis spectrum phenotypes. *Schizophrenia Research*, 254, 208-217. doi: 10.1016/j.schres.2023.03.004
- Rado, S., (1953). Dynamics and classification of disordered behavior. *American Journal of Psychiatry*, 110, 406–416. doi: 10.1176/ajp.110.6.406
- Raine, A. (1991). The SPQ: A scale for the assessment of schizotypal personality based on DSM-III-R criteria. *Schizophrenia Bulletin*, 17, 555-564. doi: 10.1093/schbul/17.4.555
- Rajaei, F., Atadokht, A ., & Hajloo, N. (2022). The effectiveness of group poetry therapy an improving happiness in chronic schizophrenic patients. *Journal of Research in Psychopathology*. 4(13),37-42. doi: 10.22098/JRP.2022.10330.1063
- Rasmussen, A. R., Zandersen, M., Nordgaard, J., Sandsten, K. E., & Parnas, J. (2022). Pseudoneurotic symptoms in the schizophrenia spectrum: An empirical study. *Schizophrenia Research*, 250, 164-171. doi: 10.1016/j.schres.2022.11.011
- Rawlings, D., Claridge, G., & Freeman, J. L. (2001). Principal components analysis of the Schizotypal Personality Scale (STA) and the Borderline Personality Scale (STB). *Personality and Individual Differences*, 31, 409-419. doi: 10.1016/S0191-8869(00)00146-X
- Tan, E. J., Toh, W. L., & Rossell, S. L. (2022). Examining relationships between state and trait psychotic symptoms and quality of life in schizophrenia spectrum disorders. *Psychiatry Research*, 310, 114450. doi: 10.1016/j.psychres.2022.114450
- Tonini, E., Watkeys, O., Quide, Y., Whitford, T. J., Cairns, M. J., & Green, M. J. (2022). Polygenic risk for schizophrenia as a moderator of associations between childhood trauma and schizotypy. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 119, 110612. doi: 10.1016/j.pnpbp.2022.110612
- Wang, L. L., Lui, S. S., & Chan, R. C. (2024). Neuropsychology and neurobiology of negative schizotypy: A selective review. *Biological Psychiatry Global Open Science*, 100317. doi: 10.1016/j.bpsgos.2024.100317
- Yaghoubi, H., Mohammadzadeh, A. (2012). Validation of the Oxford- Liverpool inventory of feelings and experiences (O-LIFE) questionnaire. *Zahedan Journal of Research in Medical Sciences*, 14(9), 24-29.