Objective: This study aimed at evaluating the factor validity of the Kearny school refusal assessment scale-revised: parent version among parents of school students in Urmia City, Iran.

Methods: The study population comprised students in the first, second, and third grades of elementary schools in Urmia (N=18750). Of them, 351 students from 5 schools were selected using a multistage cluster sampling method. Then, They responded to the Kearny school refusal assessment scale-revised: parent version. To assess the construct validity of this scale, confirmatory factor analysis and internal consistency were used.

Results: The goodness of fit index of the confirmatory factor analysis model indicated a relatively good fit of the data with factor structure of the school refusal assessment scale-revised and confirming the existence of four characters of school stimulus, evaluative situations, seeking caregivers’ attention, and tangible reinforcements, as school refusal characters. Also, the Cronbach alpha coefficient values indicate the stability of the measurement of the whole scale as well as its subscales.

Conclusion: Based on these results, the school refusal scale has good statistic characters and the 4-factor mentioned model has good construct validity and help clinicians to determine the symptoms and causes of school refusal behavior.
1. Introduction

One of the most common problems faced by parents is the children’s refusal to attend school. The refusal to attend school is attributed to the child’s motivation for disobedience to go to school or to stay in the classroom until the end of the day (Kearney, Chapman & Cook, 2005; Heyne, Gren-Landell, Melvin, & Gentle-Gentil, 2019). The term “school refusal” applies to children aged 5 to 17 years who refuse to go to school completely during the three months of school. Usually, they are upset or sad or they make a mess when they go to school. These behaviors lead to a disruption to the daily life of the child or family with negative short- and long-term consequences (Min-Hyeon, et al., 2015, Maynard, Heyne, Brendel, Bolland, Thompson, & Pigott, 2018). The school refusal behavior affects 5% to 28% of school children and is prevalent in girls and boys (Munkhaugen Gjevik, Pripp, Sponheim, & Diseth, 2017; Kearney 2002).

Children who do not attend school are faced with a wide range of problems, such as dropouts, ODD, conduct disorder, sexual dysfunction, delinquency, sleep disorders, other mental problems (Egger, Costello, & Angold, 2003; Terada, Matsumoto, Sato, Okabe, Kishimoto & Uchitomi, 2012; Hochadel, Ferolich, Waiter, Lemkuhl, & Oerkermann, 2014), educational problems, family problems, and dispute with school authorities (Kearney, Chapman, & Cook, 2005).

This problem creates an unfortunate situation for all families and, given its importance, the components of this behavior must be identified and resolved as soon as possible. The first and most important step in this path is to evaluate the extent of the problem and its causes. Theorists have taken note of the importance of providing appropriate tests to determine the behavior of refusing to go to school. The first functional-analytical approach was done by Kearney and Silverman (1993) who assessed the school refusal behavior.

Among the procedures to assess school refusal behavior, we underline the school refusal assessment Scale-Revised: Parent Version (SRAS-R-P) (Kearney, 2002). This test was designed to identify the self-perception explaining the underlying causes of school refusal: a. Avoiding stimuli or situations related to the school; b. Escaping from aversive social or evaluative situations; c. Seeking caregivers’ attention; and d. Obtaining tangible positive reinforcement outside of the school.

This instrument is a revision of the initial proposal of the SRAS-P (Kearney & Silverman, 1993) to which 8 items were added to the original 16 item instrument, and some existing items were modified to adapt them to the changes in the conception of the functional model. The revised version was made up of 24 items with a 7-point response scale (0 never, 6 always).

In 2002, Kearney examined the test-retest reliability on 115 parents for 7-14 days and found a range between 0.41 and 0.887. In this research, the results of the factor analysis were loaded on the four factors, and also the simultaneous validity for the four factors were 0.66, 0.73, 0.77, and 0.65, respectively, with an overall average of 0.86.

Highlights

• Investigating on the psychometric properties of the Persian version of School Refusal Assessment Scale-Revised: Parent Version (SRAS-R-P) SRAS-R-P has good statistic characters

• The four factors mentioned model have good construct validity and help clinicians using this tool to determine the symptom and causes of school refusal behavior.

Plain Language Summary

This study is an attempt to investigate the validity and reliability of the Persian version of the School Refusal Assessment Scale-Revised: Parent Version (SRAS-R-P) in Urmia City school students. The sample were selected by multistage cluster sampling method after obtaining informed consent. First, the original versions of (SRAS-R-P) were translated into Persian and back-translated into English and then reviewed and revised. The scale was presented to the parents. The reliability of each factor was also calculated using Cronbach’s alpha coefficient. The stability and reliability coefficients for SRAS-R-P was satisfactory. In general, this scale can be used in clinical settings and research studies.
Higa, Dialeiden, and Chorpita (2002) in their study examined the psychometric properties of the revised school refusal scale. They investigated the structural validity of this scale using exploratory factor analysis, and extracted 3 factors (two negative reinforcement factors and one positive reinforcement factor) and found the reliability coefficients by the Cronbach alpha coefficients between 0.41 and 0.90.

In another study, Kearney (2006) examined the confirmatory factor analysis of 183 parents. He used three models of four factors, three factors, and two factors, and finally supported the 4-factor model (negative school stimuli, disgusting social situations, gaining attention, and tangible reinforcements outside of school). In the 4-factor model, the Cronbach alpha was between 0.78 and 0.86. Also, Lyon (2010) aimed at identifying structural constructivism among low-income, marginal, and black minorities. He verified the four factors obtained from previous research and confirmed its desirable construct validity. Also, the internal consistency was reported to be 0.59, 0.4, 0.63, and 0.62, respectively.

This tool was implemented by Haight, Kearney, Hendron, and Schafer (2011) on a sample of 216 adolescent refugees for escaping from school and frequent absenteeism. The factor structure of this scale was confirmed and this tool could properly measure the symptoms and causes of reflexive behaviors in four factors (Ingles, González-Maciá, García-Fernández, Vicent, & Martínez-Monteagudo, 2015). Since there is not a valid test for evaluating the school refusal in Iran and given the critical period of childhood and the highest level of refusal to attend school during this period, a need exists for a tool that measures this important issue. The scale of the present is due to the strong research support, the range of use in many parts of the world, the adherence to the theoretical basis of the construction, the low number of questions and the ease of response, and also the intransigence of culture (Ingles, et al., 2015) is a very good tool for use on the target community in Iran. School refusal is important because it is compulsory to study according to the law and the school does not have any harmful effects on the child and the family, as well as the refusal to attend a stressful situation for the child, family and teachers, and one of the serious problems in the mental health (Munkhaugen et al., 2017). Therefore, the present study aims to examine the psychometric properties of the revised scale school refusal as an appropriate tool for measuring, identifying, and early intervening the problem of school refusal. Besides, this scale is the most effective treatment tool for school refusal (Kearney & Silverman, 1999). This tool helps to reduce the financial, psychosocial, and social costs of this problem and provides the basis for the growth of the child. Because of the above-mentioned issues, the present study seeks to answer the following questions:

Does the school refusal assessment scale-revised have the desired validity and reliability?

Will the factors introduced by the test maker be confirmed in Iranian society?

2. Methods

Study participants

The study population comprised students of the first, second, and third grades of primary schools (N=18750) in Urmia City, Iran.

Study procedure

The descriptive research method of this study was the confirmatory factor analysis. A multi-stage cluster sampling method was used to select the samples, so all elementary schools of Urmia were divided into 5 regions, and from each of the 1 elementary schools, and finally from these 5 schools, 3 first, second, and third (A total of 15 classes) were randomly selected and 351 parents of these students were selected to participate in the research. After selecting the students, their parents were asked to complete the prepared questionnaires. To observe the research ethics and the subjects, the researcher first introduced herself to the students and stated the purpose of the research. Then, both orally (before the performance) and in writing (mentioned in the first part of the questionnaire) it was noted that the information requested in this questionnaire is for research purposes only. Except for determining your gender and age, you do not need to mention your first and last name and other personal details. The inclusion criteria were willing to participate in the study, having physical and psychological health, and scoring above the cut-off point in the school refusal questionnaire. And the exclusion criteria were having major mental or physical comorbidities. In the end, the data were analyzed in SPSS V. 21 and LISREL V. 8.80.

Study measures

School Refusal Assessment Scale-Revised: Parent Version (SRAS-R-P)

This instrument is a 24-item measure of the relative strength of four hypothesized functions of school refusal behavior in children and adolescents. Six items are devoted
to each functional condition in this order: items 1, 5, 9, 13, 17, and 21 investigate the avoidance of stimuli provoking negative affectivity function; items 2, 6, 10, 14, 18, and 22 deal with the escape from aversive social and or evaluative situations function; items 3, 7, 11, 15, 19, and 23 check the attention-seeking function, and items 4, 8, 12, 16, 20, and 24 explore the tangible reinforcement function. Items are rated on a 7-point Likert-type scale from 1 (never) to 7 (always). Kearney (2002) has reported the Cronbach alpha values for each of the four functional conditions as 0.86, 0.86, 0.88, and 0.78, respectively (Kearney, 2002). Kearney (2006) examined the test-retest reliability across 7 to 14 days intervals for the four SRAS-R-P functional condition scores and found them as 0.63, 0.67, 0.78, and 0.61, respectively.

First, the school’s refusal questionnaire was translated into Persian by the researcher, and two English language experts were asked to translate the translated Persian items into English. Then, the gaps in the adaptation of the two translations were improved with the help of an English language expert and two professors who worked in the field of school fear. To ensure a full understanding of the items, it was first implemented on 35 parents. Finally, the questionnaire was used in the study samples.

To recruit the study samples, all elementary schools of Urmia City were divided into 5 regions, and from each of the 1 elementary schools, and finally from these 5 schools, 3 first, second, and third (A total of 15 classes) were randomly selected and 351 parents of these students were selected to participate in the research. After selecting the student, their parents were asked to complete the prepared questionnaire. To observe the ethics of research and the rights of the subjects, the researcher first introduced herself to the students and stated the purpose of the research, then, both orally (before the performance) and in writing (mentioned in the first part of the questionnaire) it was noted that The information requested in this questionnaire is for research purposes only. Confidentiality was assured.

3. Results

Table 1 presents the descriptive statistics indexes related to the refusal of school attendance for the samples. As shown in Table 1, the distribution of scores is normal and skewed.

One of the methods for determining the validity of a test is internal consistency. Theoretically, the scores of subscales should be highly correlated with the overall score of the test, since it is assumed that all of them are measured on a unitary basis of behavior. Also, the scores of the sub-quests must be relatively low related to each other because they measure different aspects of the structure that are unrelated.

### Table 1. Descriptive statistics indicators of research variables (n=351)

| Variables                          | Mean±SD  | Skewness | Kurtosis |
|------------------------------------|----------|----------|----------|
| School stimuli                     | 13.06±4.63 | 0.21      | 0.94     |
| Evaluative situations              | 12.89±4.52 | 0.25      | 0.52     |
| Seeking caregivers’ attention      | 15.96±4.68 | 0.22      | 0.48     |
| Tangible reinforcements            | 14.80±5.20 | 1.16      | 0.91     |
| Total                              | 14.12±4.54 | 0.23      | 1.20     |

### Table 2. Correlation matrix of factors and total scale

| Scale                                        | 1   | 2   | 3   | 4   | 5   |
|----------------------------------------------|-----|-----|-----|-----|-----|
| Refusal to avoid stimuli provoking negative affectivity | 1   | 0.49| 0.41| 0.48| 0.81|
| Refusal to avoid aversive social or assessment situations | 1   | 0.41| 0.41| 0.78|
| Refusal to call parents’ attention           | 1   | 0.36| 0.71|
| Refusal to obtain tangible positive rewards   | 1   | 0.75|
| Whole scale                                  | 1   |     |     |     |     |
Table 3. Confirmatory factor analysis results and factor burden components of the scale of school refusal

| Factor 1: Refusal to Avoid Stimuli Provoking Negative Affectivity | Item | Burden Factor | t    | R²  |
|------------------------------------------------------------------|------|---------------|------|-----|
| 1                                                                | 0.71 | 14.72         | 0.51 |
| 5                                                                | 0.68 | 13.90         | 0.46 |
| 9                                                                | 0.71 | 14.73         | 0.51 |
| 13                                                               | 0.70 | 14.56         | 0.50 |
| 17                                                               | 0.84 | 18.66         | 0.70 |
| 21                                                               | 0.77 | 16.38         | 0.59 |

Factor 2: Refusal to Avoid Aversive Social or Assessment Situations

| Item | Burden Factor | t    | R²  |
|------|---------------|------|-----|
| 2    | 0.68          | 13.88| 0.46|
| 6    | 0.79          | 17.12| 0.62|
| 10   | 0.83          | 18.48| 0.69|
| 14   | 0.71          | 14.68| 0.50|
| 18   | 0.79          | 17.24| 0.63|
| 22   | 0.70          | 14.45| 0.49|

Factor 3: Refusal to call parents’ attention

| Item | Burden Factor | t    | R²  |
|------|---------------|------|-----|
| 3    | 0.78          | 16.66| 0.61|
| 7    | 0.74          | 16.51| 0.60|
| 11   | 0.65          | 15.54| 0.55|
| 15   | 0.65          | 12.85| 0.42|
| 19   | 0.68          | 13.64| 0.46|
| 23   | 0.75          | 15.76| 0.57|

Factor 4: Refusal to Obtain Tangible Positive Rewards

| Item | Burden factor | t    | R²  |
|------|---------------|------|-----|
| 4    | 0.75          | 15.68| 0.56|
| 8    | 0.77          | 16.25| 0.59|
| 12   | 0.77          | 16.34| 0.59|
| 16   | 0.78          | 16.85| 0.62|
| 20   | 0.66          | 13.38| 0.44|
| 24   | 0.75          | 15.73| 0.56|
To examine this issue, we measure the correlation of the subscales with the overall score and each other.

As shown in Table 2, all factors have a high correlation with the overall scale score, but they have very low correlation with each other, which indicates the proper internal consistency of the factors and the overall scale. To correlate all subscales with each other and with the whole positive scale, which indicates a positive relationship between them and increases with increasing one of them.
Because the structure of the school refusal scale was determined based on theoretical foundations, to verify the construct validity of this scale, confirmatory factor analysis was used which its results are presented in Table 3.

In the factor analysis of the scale of refusal to go to school, to estimate the model parameters, the maximum likelihood method was used and the results showed that the P-value in all questions is smaller than 0.05 and also the factor load is greater than 0.3. Therefore, the selected questions provide an appropriate factor structure for measuring the studied dimensions in the research model. Route indicator for causal factor analysis of school refusal questionnaire and its 4-factor structure are presented in Figure 1.

The results of the model fit indices showed that the value of Root Mean Square Error Of Approximation (RMSEA) is 0.07 and less than 0.1, which indicates that the mean square error of the model is appropriate and acceptable. Also, the K2 value was obtained at a degree of freedom of 34.2, which is less than 3, and the Goodness-of-Fit Index (GFI), Normed Fit Index (NFI) and CFI (comparative fit index) were also higher than 0.9, which indicates that the model for measuring the variables of the research is suitable.

To determine the reliability of the school refusal scale, we used the Cronbach alpha coefficient which was 0.90 for the whole scale. The values for the subscales of avoiding school stimuli due to negative emotions, escaping socially shameful situations, following tangible and objective reinforcements outside the school, and the introduction of reinforcers outside of the school were 0.89, 0.86, 0.88 and 0.88 respectively. So the scale has good reliability.

4. Discussion

Some children are reluctant to leave the safe haven of home and go to school. This problem can suffer the child and the family and put pressure on the school staff and result in the negative short-term and long-term consequences on the child’s life. Given these facts, researchers and psychologists have searched for tools for measuring and identifying the problem in children to provide appropriate and timely assistance. The present study was conducted to evaluate the confirmatory factor analysis and the internal consistency of the school refusal assessment scale-revised: parent version. The obtained results to answer the first question of the present study showed that since one of the features of a good tool is its repeatability and reliability, its psychometric properties are examined. The psychometric properties of the test, including the internal consistency of the scales and their fitness indicators, showed that the scale had a high degree of validity and was suitable for studying and measuring the refusal behaviors of Iranian students attending school. The results of the reliability analysis of the questionnaire showed that all components had an appropriate internal consistency coefficient (0.88-0.89), and also its Cronbach alpha value was 0.98, which indicates the desirable internal consistency of the scale. The test reliability findings of this study support the findings of Kearney (2006), Lyon (2010), Gerum-Woon (2010), and Haight et al. (2011).

In response to the second question, our results showed that structural validity is the most powerful method for measuring the validity of a measuring instrument. Confirmatory factor analysis for validating construct validity provides a reliable method for the researcher to test the hypotheses about the data structure that results from a predetermined model with a number and a combination of agents. Given that in factor analysis, the factor loads less than 0.3 are considered to be low, based on Table 3, most of the questions in the scale have a high functional load. Therefore, the questions explain the variance of the total school absenteeism scale appropriately. Confirmatory factor analysis showed that the components of avoiding school stimuli by stimulating negative emotions, escaping socially shameful situations, the need to get attention from influential or important people in life, and pursuing tangible and objective enhancers out of school have good fitness. So fitting indicators of goodness suggest the confirmation of the main hypothesis that the model is fitted with the data and its consistency with the theoretical model. This finding is supported by studies of Daleiden, Chorpita, Kollins, and Drabman (1999), Kearney and Spear (2014), Kearney (2006), Lyon (2010) and Haight et al. (2011), but it is inconsistent with the research of Gerum-woon (2010), which demonstrated a 3-factor model for this questionnaire.

Finally, according to the results of this research and previous related studies, school refusal scale-parent form has good psychometric properties for children, and the quadratic model proposed in the research has a constructive structure that helps researchers, professionals, and counselors to measure and identify the symptoms and reasons for refusing to attend school.

Despite the many efforts of the authors, this study has not been restricted. The present study was conducted on the students of the first, second, and third grades of Urmia schools. Therefore, the results of this research can be generalized to the whole society. For other statistical societies, the generalization of the results should be done with caution in the face Take. Therefore, we suggest that this questionnaire be vali-
dated on a macro scale, which will allow the educational environment to benefit from it.

5. Conclusion

Based on the results of this study, the similarity of the coefficients reported in this study with the research coefficients in the main culture indicates the simplicity and ease of test phrases in English and Persian. Also, the adaptation of the original version to the Iranian culture has been done desirably. Therefore, the tools obtained from this research can be used in studies related to school fear in Iran. One of the limitations of the present study lies in its descriptive design, which makes it impossible to present the results of this research as a cause of disability. Besides, this study had limitations in terms of statistical population and the sample was selected from parents in Urmia, which was assigned to a specific geographical area, and this led to more caution in generalizing the results to the whole community. Because of the cultural diversity in our country, it is suggested that the factor structure of this questionnaire be examined in different cultures and with more extensive examples.

Ethical Considerations

Compliance with ethical guidelines

All participants were informed about the study objectives and its potential benefits and they were assured of the confidentiality of their information. They were free to leave the study at any time.

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Authors' contributions

All authors contributed equally in preparing this article.

Conflict of interest

The authors declare no conflict of interest.

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