



Factorial structure and psychometric adequacy of the Persian version of Interpersonal Mindfulness Questionnaire

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ABSTRACT

Background and Aim: Conscious listening not only requires maintaining attention to the external environment (i.e. the speaker), but also involves being present in one's body and observing the unapproachable and non-reactive inner experiences. The aim of this study was to evaluate the factor structure of the Persian version of the Pratscher (2018) Interpersonal Mindfulness Questionnaire, which is designed to measure individual responses in social interactions. **Methods:** In this descriptive-analysis study, 248 students (164 boys and 74 girls) from Tehran and Tabriz universities were selected by convenience sampling method and the Pratscher Interpersonal Mindfulness Questionnaire (2018) And Brown (2003) Response Questionnaire. Confirmatory factor analysis and SPSS software version 22 and LISREL version 8.80 were used for data analysis. **Results:** The results of confirmatory factor analysis confirmed the four-factor model (present presence, awareness, acceptance and reaction). The convergent validity of this questionnaire with Brown (2003) Mind-Awareness Scale was very favorable (0.71). In addition, Cronbach's alpha coefficients for the general scale of mindfulness were 0.84 and the four subscales of present presence, awareness, acceptance and reaction were 0.83, 0.83, 0.88 and 0.77, respectively. **Conclusion:** The Pratscher Interpersonal Mindfulness Scale is a valid tool with good psychometric competence for measuring mindfulness in social interactions for use in research situations in the Iranian non-clinical population.



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Introduction

One of the fundamental concepts raised in the positive psychology movement is the concept of mindfulness. Mindfulness is a creative cognitive process that emerges through paying attention to real goals and the body in the present without judging the moment-to-moment manifest experiences (Sugiura & Sugiura, 2020). Mindfulness is a non-judgmental, indescribable, and present-based awareness of an experience that is within the scope of a person's attention at a particular moment; In addition, this concept includes the acknowledgment of the mentioned experience and its acceptance (Janowski & Łucjan, 2012). In another definition, mindfulness is a technique that, combined with meditation and a specific mental orientation towards an experience, encourages becoming aware of the present in a non-judgmental way or minimizes conflict in thoughts and feelings (Potek, 2012). Mindfulness can effectively control emotional reactions (through cortical inhibition of the limbic system) by purposefully using the higher functions of the mind, including attention, awareness, kind attitude, curiosity, and compassion (Kabat-Zinn, 2012). Therefore, people with higher levels of awareness experience fewer negative automatic thoughts and believe they can free themselves from such thoughts (Frewen, Evans, Maraj, and Dozois, 2008). In addition, researchers and educators of meditation and mindfulness, such as Biko and Badhi (2016) and Kramer (2007), have written books about mindfulness in social interactions and relationships. In this way, the concept of interpersonal mindfulness was theoretically related to Buddhist texts and more contemporary writings. There are many ways that mindfulness may appear in interpersonal interactions. Perhaps the most visible example is paying attention to someone else speaking. This conscious presence, self-tuning listening, allows us to release limiting structures. These structures are: innate emotional responses based on past experiences, inability to accurately hear what someone is saying (based on anticipation of what is expected), and misinterpretation of emotional signals due to the ongoing internal narrative (which distorts and confuses the ability to see clearly) (Parker, Nelson, Epel and Siegel, 2015).

Conscious listening not only requires maintaining attention to the external environment (i.e., the speaker) but also involves being present in one's body and observing one's inner

experiences non-judgmentally and non-reactively.

Considering the challenge of focusing attention not only on oneself, but also on the other person, interpersonal mindfulness may be based on skills and characteristics that are not assessed in trait mindfulness scales. In most cases, items in mindfulness scales do not ask respondents to consider interpersonal contexts specifically. Certainly, understanding how mindfulness affects social interactions and relationships requires a scale that directly assesses mindfulness as it occurs in interpersonal interactions. Previous studies that have examined mindfulness scales tailored to specific social situations and roles show that these mindfulness measures are useful for discovering specific benefits of the interpersonal domain. For example, researchers have developed measures of mindfulness related to interpersonal domains, such as mindful parenting (Duncan, 2007) and mindful teaching (Frank et al., 2016).

On the other hand, the debate about the use of a short and multidimensional tool continues. One of the tools designed in the field of interpersonal mindfulness is the scale of interpersonal mindfulness by Pratscher et al. (2018). This scale has 27 items, which includes 4 subscales, which, due to its shortness and including the interpersonal component of mindfulness, can be a widely used tool at the community level. Therefore, considering that mindfulness has taken an important place in the treatment and help of clinical and non-clinical groups and is a structure that has been used in a wide range of therapeutic interventions. On the one hand, knowing the mentioned structure in Iranian samples is necessary. Moreover, there needs to be a suitable tool for measuring mindfulness, especially in the dimension of interpersonal mindfulness in Iran. Hence, Pratscher's Interpersonal Mindfulness Scale, has yet to be examined psychometrically in Iranian society. It can be a suitable tool for this purpose and can be widely used in clinical and research fields. Therefore, this research aimed to investigate the psychometric properties of the Persian version of Pratscher Interpersonal Mindfulness Scale.

Method

The current descriptive research is of the norming type, which was conducted to investigate the psychometric properties of the Persian version of Pratscher et al.'s (2018) Mind-

Interpersonal Awareness Scale. The study population was all students of Tehran and Tabriz universities in 1400. The sample size in psychometric studies based on the opinion of Kameri and Lawrence et al. is suggested to be 5 to 15 people for each item of the questionnaire, according to the number of items of the interpersonal consciousness scale (27 items) that were selected as available sampling. The inclusion criteria included Iranian citizenship, obtaining informed consent, reading and writing in Persian, and answering all the questions. The criterion for leaving the research was not answering more than ten percent of the items. Finally, data analysis was done on 248 people.

Tools

1. Interpersonal Mindfulness Scale: This scale was developed by Pratscher et al. (2018) and contains 27 questions that include four subscales, which the subject is asked to answer on a 5-point Likert scale (almost never = 1 to Almost always = 5) to answer the questions. The minimum score in this questionnaire is 27, and the maximum score is 135. Pratscher et al. (2018) obtained Cronbach's alpha reliability for the entire questionnaire of interpersonal mindfulness of 0.86 at a significance level of 0.01. Moreover, Cronbach's alpha reliability of each subscale of presence (0.87), awareness of self and others (0.68), acceptance without subjective judgment (0.74), and lack of reaction (0.67) was obtained, which shows good reliability. Erus and Tekel (2020) obtained Cronbach's alpha reliability of the Interpersonal Mindfulness Scale at 0.82.

2. Brown's Mindfulness Scale (2003): This questionnaire was prepared by Brown and Ryan in 2003. It has 11 items that are used to measure mindfulness. The scoring of the questionnaire is in the form of a 6-point Likert scale, which is scored from almost always to almost never. The minimum possible score is 15, and the maximum is 90. A score between 15 and 30 indicates poor mindfulness; a score between 31 and 45 indicates average mindfulness; a score higher than 41 indicates high mindfulness. In the research of Brown et al. (2003), the internal consistency of the questions based on Cronbach's alpha was reported from 0.80 to 0.87. The validity of the scale has been reported to be adequate due to the negative correlation with depression and anxiety measuring instruments and the positive correlation with measuring positive affect and self-esteem. The retest reliability coefficient of this scale has also been reported at a fixed interval of one month.

Results

In the present study, before analyzing the data, univariate normality assumptions were confirmed with the help of the confirmatory factor analysis statistical method, in line with the suggestion of Klein (2015), by using Skewness and kurtosis values, multivariate normality and outlier values through the Mahalanobis distance method and missing data using the maximum expectation test method.

In addition, in this study, the results related to the common dispersion between the observed variables show that the assumptions of linearity and multiple collinearities are met. In the following, in line with Pratscher et al.'s (2019) study, the confirmatory factor analysis statistical method was used to test the appropriateness of the assumed four-factor models (including presence in the present moment, awareness, acceptance, and reacting with observation data in the sample of Iranian students). of interpersonal mindfulness scale.

In other words, in this study, with the help of confirmatory factor analysis and using Lisrel software, the assumed four-factor model of the short version of the Interpersonal Mindfulness Scale was tested. In addition, the present study used the probability background method to estimate the model. Retest reliability was done with 54 people at an interval of 1 month. The mean and standard deviation of the sample's age in the retest are 25 and 4. Correlation, the mean, and standard deviation of the low and high-level factors of the questionnaire in the primary and secondary evaluation are obtained. As the table shows, all the correlation coefficients are significant at the 0.01 level. Also, no significant difference was observed in the average scores of questionnaire factors in the two implementations with a gap of 1 month. Therefore, Interpersonal Mindfulness Scale shows good test-retest reliability. In order to determine the convergent validity of the Interpersonal Mindfulness Scale, its correlation with the subscales of the Brown Mindfulness Scale was calculated. Data shows that the interpersonal mindfulness scale has high convergent validity with Brown's mindfulness scale ($r=0.71$).

Conclusion

The present study was conducted to study the validity and reliability of the Interpersonal Mindfulness Questionnaire using confirmatory factor analysis and internal consistency. The present study's research results align with the findings of Maddov et al. (2015) and Prastcher et

al. (2019), who showed that the interpersonal mindfulness questionnaire has acceptable validity. In other words, the results of the confirmatory analysis models showed an acceptable fit of the factor structure of the questionnaire. The results of Hamli's first-order confirmatory analysis using the maximum likelihood estimation method showed that the interpersonal mindfulness scale measurement model is suitable, and all the model parameters are significant. The interpersonal mindfulness scale measurement model's fit indices also indicated the measurement model's overall adequacy; all the fit indices were higher than 0.90, and the RMSEA index was 0.065. These results show that the four-factor structure of the interpersonal mindfulness scale, even without modification, has the best overall fit with the research data. This issue indicates the acceptability and reasonableness of the fitness indicators and, as a result, the fit and correctness of this scale in Iranian society. In addition, Cronbach's alpha coefficients (to check internal consistency) also showed that the interpersonal mindfulness questionnaire has acceptable reliability. The Cronbach's alpha coefficient results indicate that the Persian version of the interpersonal mindfulness scale has a high internal consistency ($\alpha = 0.84$), in the sense that the items of this scale have the necessary homogeneity.

In addition, Cronbach's alpha coefficients of the subscales of being in the present moment, awareness, acceptance, and reactivity were obtained as 0.83, 0.83, 0.88, and 0.77, respectively. Each item measures a similar structure in this case, and conceptual dispersion is not seen in them. Also, Brown's mindfulness questionnaire was used to evaluate convergent validity, and the correlation rate was 0.71. Of theoretical importance, interaction styles associated with interpersonal mindfulness may support healthy interpersonal communication and adaptive relationship functioning (Brown, 2007). When one is fully present with the other and allows the other to express themselves without reacting or judging, the other feels important and understood (Kuhn et al., 2018) and realizes that reciprocal connections and closeness are necessary for happiness. (Reis et al., 2017). In sum, conceptualizing interpersonal mindfulness will likely contribute to increasing interest in mindfulness's interpersonal and relational effects. Researchers emphasize that scale construction is an ongoing process and that more data provide cumulative evidence about the validity and reliability of the measure (Pratscher et al., 2019).

The present study has several limitations. First, the present sample includes only a limited age range. Therefore, to determine the

generalizability of the findings of this study to other age groups, it is necessary to conduct research on other groups. Another limitation of this research is that the current study was conducted on students, who are a relatively homogeneous population; therefore, there is a limitation in generalizing the results to other populations. They support a dimensional structure and believe that the results obtained from clinical and non-clinical settings are largely consistent. Care should be taken in generalizing the results of this study to the clinical environment.

Conflict of Interest

According to the authors, this article has no financial sponsor or conflict of interest.

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