

Review of: "Psychometric of the interpersonal communication skills scale: A confirmatory factor analysis"

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Potential competing interests: No potential competing interests to declare.

Authors examined a scale assessing interpersonal communication skills. The results are interesting. However, I raised some major concerns that need to be addressed.

Abstract:

1. Can you provide a brief rationale for examining the scale in Iran?
2. Please spell out all acronyms (e.g., GFI) when first mentioned in the paper. I suggest removing them from the abstract and including them in the statistical analysis section.
3. Why did you collect data from 170 participants for a scale with 30 items? Is there a specific reference for using this sample size in factor analysis?

Introduction:

1. The introduction jumps between different topics without a clear focus, making it difficult to follow.
2. The terms "ICS," "EC," and "CS" are used interchangeably without a clear definition or explanation, leading to confusion.
3. The introduction makes broad claims without citing specific evidence to support them, such as the importance of ICS for success in the workplace and the impact of effective health communication on COVID-19 prevention.
4. The introduction references multiple sources without properly attributing them or providing proper citations.
5. The introduction includes too much background information that is not directly relevant to the main topic.
6. The introduction uses complex language and jargon that may be difficult for some readers to understand.
7. The introduction lacks a clear and concise thesis statement, making it difficult to understand the purpose of the text.
8. The introduction lacks organization and structure, with ideas presented in a haphazard manner.
9. The introduction includes irrelevant information, such as the need for a well-trained health workforce and the importance of assessing the psychometric properties of assessment tools.
10. The introduction makes broad statements about the importance of effective communication without specifying which type of communication (e.g. verbal, written, nonverbal) is being referred to.
11. The introduction conflates the importance of effective communication with the importance of interpersonal communication skills, without distinguishing between the two.
12. The introduction fails to provide a clear audience for the text or the context in which the communication skills are

relevant.

13. The introduction does not discuss potential limitations or criticisms of the research or ideas presented.
14. The introduction lacks clear transitions between different ideas and sections.
15. The introduction includes too much information in one paragraph, making it difficult to digest and understand the main points.

Methods:

1. Study design: The study design is a cross-sectional analytical study. Cross-sectional studies are useful for gathering information on the prevalence of a disease or condition, but they cannot establish cause-and-effect relationships. Furthermore, it is essential to consider the limitations of cross-sectional studies when interpreting the results.
2. Sample size: The study employed a maximum of 170 voluntary healthcare providers who met the inclusion criteria. The authors estimated the final sample size based on the nonresponse rate, and they justify the sample size based on the number of constructs included in the structural equation model. However, the adequacy of the sample size for the study should be carefully considered.
3. Data collection method: The survey was conducted from November to December 2021. The researchers used a comprehensive sampling frame of urban and rural health centers covered by Ahvaz Jundishapur University of Medical Sciences. The selection of research units was based on multi-level sampling criteria and was done accessibly. However, it is unclear whether the sampling was truly representative of the population of interest.
4. Inclusion/exclusion criteria: The authors established inclusion and exclusion criteria to identify eligible participants for the study. The criteria were based on professional experience and educational background. However, it is unclear whether these criteria were sufficient to select a representative sample.
5. Measurement data: The authors used a questionnaire with 30 items to measure the ICSS. The tool used in the study was developed by Vakili et al. in 2012. The questionnaire included seven dimensions of ICSS measured on a 5-point Likert scale. The validity and reliability of the questionnaire should be considered in interpreting the results.
6. Missing data: Missing data is a common issue in survey research. The authors addressed this issue by replacing missing values with the average of each item. However, this method may not be appropriate for all types of missing data, and the potential impact of missing data should be considered when interpreting the results.
7. Data analysis: The researchers used maximum likelihood estimation to extract the components using the goodness-of-fit indices of the CFA in Lisrel 8.8 and Smartpls 3.2.8 software. The authors used multiple fit indices to assess the fit of the proposed model to the data, which is good practice. However, it is essential to consider the limitations of the fit indices and their interpretation.
8. Discriminant validity assessment: The authors measured the discriminant Validity Assessment of the ICSS through the Fronell-Larcker Criterion. This criterion is commonly used to assess discriminant validity, but there are other methods that should be considered when evaluating the validity of the instrument.
9. Internal credibility of ICSS: The authors used Cronbach's alpha, construct reliability, and intra-cluster correlation coefficients to measure the internal credibility of ICSS. These methods are commonly used to assess the reliability of the instrument, but it is essential to consider the limitations of these methods and their interpretation.

10. Generalizability: The sample for this study was limited to healthcare providers who met specific inclusion/exclusion criteria. Therefore, the generalizability of the results may be limited to this population. It is important to consider the potential impact of sampling bias and limitations on the generalizability of the findings.

Results:

1. Sample size: The study involved a relatively small sample size of 170 health staff from a single health center. The findings may not be generalizable to other populations or healthcare settings.
2. Age and gender distribution: The age range of the participants is wide, from 22 to 61 years, which could potentially impact the results. Also, the study does not provide a detailed breakdown of the gender distribution of participants.
3. Skewness and kurtosis: The study reports that the data deviated from multivariate normality, and the researchers used WLS estimation to reduce the impact of non-normal data. This may affect the accuracy of the results and should be taken into consideration when interpreting the findings.
4. CFA model: The study used a first-order and second-order confirmatory factor analysis to validate the ICSS. While the model had acceptable goodness-of-fit indices, it is important to note that confirmatory factor analysis is a statistical technique that relies on assumptions that may not be entirely met in real-world data.
5. Validity: The study used Fornell and Larcker matrix to assess discriminant validity and reported that the first-order CFA model had adequate divergent validity. However, the study did not report on the convergent validity of the ICSS.
6. Reliability: The study reported good internal consistency of the items within each of the seven aspects, suggesting that the ICSS has good reliability. However, it is important to note that internal consistency is only one aspect of reliability, and other measures of reliability, such as test-retest reliability, were not reported.
7. IPMA: The study used importance-performance map analysis to examine the influence of constructs on the designed conceptual model. While this is a useful tool for identifying areas for improvement, it should be noted that it is based on subjective ratings and may not reflect objective performance.
8. Interpretation of results: The study reported that general and listening skills had the highest scores, while asking and interpretation skills had the lowest score. However, it is unclear what these scores represent and how they should be interpreted.
9. Study design: The study is cross-sectional in design, which limits the ability to establish causality or track changes over time.
10. External validity: The study was conducted in a specific healthcare setting in Ahvaz, which may limit the generalizability of the findings to other healthcare settings and populations.

Discussion:

1. The study aimed to design a valid and reliable scale to evaluate ICSS (Interpersonal Communication Skills) in healthcare staff. The study confirmed the factors, rotational type, and factorial solution found by CFA (Confirmatory Factor Analysis) and proposed to replicate the tool in other populations to create a valid tool to assess the effectiveness of skills training programs.
2. EC (Effective Communication) is essential for healthcare staff to interact with their clients, succeed in personal,

educational, and professional lives, and improve educational quality.

3. Cultural differences such as power distance or individualism can affect communication and behavior in various ways. It is important to be aware of these cultural differences and adapt communication strategies accordingly to avoid misunderstandings and promote EC.
4. Measuring and improving ICSS is important for organizations to achieve their goals and maintain a healthy work environment.
5. The CFA used to check the construct validity of the ICSS found that all extracted factors had high reliability and validity. The results confirmed sufficient empirical support for the reliability and validity of ICSS and provided comprehensive and sufficient information about ICSS's creditworthiness.
6. ICSS can be influenced by various factors such as cultural factors, personal and family characteristics.
7. The study proposed that the verification process for ICSS is vigorous, and others in various contexts can assess it. Further evaluations of the seven-factor model will be necessary to compare the results with previous studies.

Limitation and conclusion:

1. The study acknowledges the limitation that the findings are based on a single university in Iran, which may affect the generalizability of the results. However, the authors argue that the generalizability of a study depends on various factors, and the context and limitations of the study should be considered when interpreting its findings.
2. The study also highlights the limitations of self-report measures in accurately reflecting respondents' experiences with their ICSS, citing social desirability bias and inaccurate recall as potential sources of unreliable data. This emphasizes the need for alternative methods of data collection to enhance the validity of the results.
3. The study concludes that the ICSS is a valuable tool for healthcare staff dealing with clients due to its reliability, brevity, and psychometric validity. The authors suggest that the scale can be used to develop ICSS in healthcare staff education and encourage researchers to test it using data sets from diverse universities of medical sciences throughout the world.
4. The study proposes that the ICSS can help healthcare professionals make informed decisions about client care and treatment, emphasizing the importance of effective communication in healthcare settings.