

Article

Cross-Culture Adaptation and Validation of the Indonesian version of Social Problem-Solving Inventory-Revised among Midwife Indonesia.



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Abstract

Background: The Social Problem-Solving Inventory-Revised Short Form (SPSI-R: S) is a well-developed self-report instrument measuring social problem solving in a shorter version. Although the psychometric qualities of the SPSI-R: SF have been studied with a range of populations, they have not yet been established for midwife populations in Indonesia.

Objectives: This study investigates factor structure and item-level psychometrics of the Social Problem-Solving Inventory-Revised: Short Form (SPSI-R:S), for midwife in Indonesia.

Methods: Participants were Indonesian midwives working in gynecology clinic at West Java, Indonesia. A convenience sample of one thousand individuals was collected using online survey techniques. The SPSI-R: SF is a 25-item self-report questionnaire with five subscales that measures functional and dysfunctional cognitive and emotional problem-solving. An exploratory factor analysis (EFA) was conducted. Then, convergent validity and discriminatory validity was measured using Average Variance Extracted. The Cronbach's alpha coefficients for the SPSI-R: SF subscales were calculated to examine their internal consistency for the total study.

Results: The average age is 35.15 years old (standard deviation=6.14). Five factors with eigen values larger than 1 were retrieved and accounted for 59.1% of the variance in the original variables. Five factors have an appropriate average variance extracted (AVE > 50). Cronbach alpha coefficients for Bahasa versions of the SPSI-R: SF ranged from 0.722 to 0.886.

Conclusion: The SPSI-R: SF (Bahasa version) scale showed adequate internal consistency and validity. This instrument will enable us to assess functional and dysfunctional cognitive and emotional orientations towards solving life problems.

Keywords: Social Problem-Solving Inventory-Revised Short-Form (SPSI-R: SF); Psychometric properties; midwife; Indonesia; Bahasa.

INTRODUCTION

Midwives provide some of the most crucial healthcare services, such as prenatal care, birth, and postnatal care, as well as programs for the development, improvement, and protection of mother and child health. Midwives also have a crucial role in reducing maternal and child mortality (Aapinar, 2014; Bilgin et al., 2017; Karakuş, 2019). (Aapinar, 2014; Bilgin et al., 2017) Dissatisfied midwives may suffer problems such as continuous complaint, dismissal and indifference towards the job, and hopelessness over the future of the profession.

According to studies, problem-solving skills effectively increase contentment (Bakhshi et al., 2018; Kaveh Farsani et al., 2012).

It has been found repeatedly that social problem-solving skills influence adjustment among persons in general and among those with a wide range of emotional and medical health issues (Dreer, Elliott, Fletcher, & Swanson, 2005; D'Zurilla & Nezu, 2007). Furthermore, Cameron, Shin, Williams, and Stewart (2004) found that therapies focusing on social problem-solving abilities are beneficial in reducing subsequent psychological distress and depression in both individuals with chronic health issues and their family carers (Grant, Elliott, Weaver, Bartolucci, & Giger, 2002). Consequently, it is essential to assess social problem-solving skills in medical contexts. Despite its influence on adjustment, outcomes, and treatment implications, social problem-solving abilities are often underassessed in medical contexts. There are several established measures of social problem solving, such as the Means-End Problem Solving Process (Platt & Spivak, 1975), the Problem-Solving Inventory (Heppner, 1988), and the Social Problem-Solving Inventory-Revised (SPSI-R; D'Zurilla et al., 2002). On the basis of D'Zurilla and Nezu's five-component Social Problem-Solving Model, the Social Problem-Solving Inventory-Revised (SPSI-RTM) is a well-developed self-report instrument measuring social problem solving. Social Problem-Solving Inventory-Revised Short Form (SPSI-R: S) is a shorter version that has the same five components as the lengthier form (D'Zurilla et al., 2002). The SPSI-R:S has efficient administration procedures, standardized norms (D'Zurilla et al., 2002), and has been used to assess social problem solving in a variety of populations, including, but not limited to, people with low vision (Dreer et al., 2009), individuals with a recent suicidal attempt (Ghahramanlou-Holloway, Bhar, Brown, Olsen, & Beck, 2012), college students (So (Cameron, Shin, Williams, & Stewart, 2004). The SPSI-R: S has been utilized globally as well (Cameron et al., 2004).

Only the SPSI-R measures all of the theoretical dimensions given in D'Zurilla and Nezu's (2002) model of social problem solving. The psychometric features of this instrument have been validated across numerous populations and nations (Wakeling, 2007). Cameron et al., 2004; D'Zurilla et al., 2002; Hawkins et al., 2009; Wang et al., 2013) and test-retest reliability ranging from .72 to .87 (D'Zurilla et al., 2002; Hawkins et al., 2009). Studies have established that the English, Spanish (De La Torre, Morera, & Wood, 2010; Morera et al., 2006), and Chinese language versions of the SPSI-R have good internal consistency and temporal stability (Siu & Shek, 2005). Confirmatory factor analysis (CFA) was used to analyze the five components of the SPSI-R: S, indicating a satisfactory model fit for college students (D'Zurilla et al., 2002; Hawkins et al., 2009). Numerous studies have established that the SPSI-R has strong contemporaneous validity, with SPSI-R scores correlated with psychological well-being (Morera et al., 2006) and depression ratings (Siu & Shek, 2005).

Although the psychometric qualities of the SPSI-R: SF have been studied with a range of populations, they have not yet been established for midwife populations in Indonesia. It would be useful to have additional information regarding the psychometric features of this measure for usage with Indonesian midwife populations, as there is an increasing interest in social problem-solving therapy as a means to reduce psychological distress and enhance job satisfaction.

METHODS

Participants

Participants were Indonesian midwives working in gynecology clinic at West Java, Indonesia. A convenience sample of one thousand individuals was collected using online survey techniques. This study's sample consisted of midwives who met the inclusion criterion of having at least six months of work experience and a willingness to participate. Exclusion Criteria were maternity leave-taking midwives.

Measures

The SPSI-R: SF is a 25-item self-report questionnaire with five subscales that measures functional and dysfunctional cognitive and emotional problem-solving. Positive, negative, rational, impulsivity-carelessness, and avoidant are the subscales. Each item is assessed on a 5-point Likert scale, and subscale and inventory scores are calculated. Higher scores indicate maladaptive problem-solving, while higher scores on positive problem orientation and logical problem solving indicate adaptive problem-solving (D'Zurilla et al., 2002).

Translation and cultural validation of measures into Bahasa

The SPSI-R: SF was translated into Bahasa by native speakers utilizing forward and back translation techniques. When no semantic overlap was found, the translator and the person doing the back-translation worked together to come up with a better alternative. To guarantee cultural congruence of the items for the different demographic groups, the Bahasa versions of the SPSI-R: SF were independently pilot tested in focus groups of community members to examine the relevance, comprehensibility, and acceptability of the various items. Some of the SPSI-R: SF items were modified somewhat as a result of the pilot testing in order to increase their clarity and cultural relevance; however, we ensured that these modified items were still semantically equivalent to the original SPSI-R: SF items.

Procedure

The study was approved by the Health Research Ethics Committee at STIKep PPNI Jawa Barat. To guarantee that all potential participants were approached in the same way, the fieldworkers explained the study and obtained consent from those they approached using a script created for this project. People were asked to take part in this study. Participants were made aware of the anonymity and privacy guarantees of the process. All participants were made aware that their involvement in the study was entirely optional. After receiving their consent, all participants were given a series of Bahasa questionnaires to fill out with the help of an interviewer.

Data analysis

Principal component analysis with oblimin rotation was used to assess the dimensionality (construct validity) of the SPSI-R: SF by determining whether or not the five-factor structure of the English-language questionnaire was retained in the Bahasa translations. Kaiser's criterion was used to keep the factors with eigen values larger than 1.0 (Kaiser, 1960). While factors loadings with an absolute value of 0.3 or above are normally considered significant, factor loadings below this threshold were also removed. Convergent validity was evaluated using the Average Variance Extracted (AVE), with values above .50 indicating sufficiency (Lee et al., 2020). For discriminatory validity, we compared the AVE coefficients of the dimensions to their correlation coefficients. The Cronbach's alpha coefficients for the SPSI-R: SF subscales were calculated to examine their internal consistency for the total study.

RESULTS

The demographic characteristics of the total sample are depicted in Table 1. The average age is 35.15 years old (standard deviation=6.14). The majority (79.5%) were married, had a diploma III (73.9%), and were permanently employed (67.6%).

Table 1. Demographic characteristics ($n = 210$)

Demographics	n (%)
Age (years old), Mean \pm SD	35.15 \pm 6.14
Educational level	
Diploma III	155 (73.9)
Diploma IV	55 (26.1)
Working status	
Permanent	142 (67.6)
Contract	68 (32.4)
Marital status	
Married	167 (79.5)
Single/Divorce/Widow	43 (20.5)

Construct validity

Exploratory-factor analysis employing principal component analysis on all SPSI-R: SF items assessed construct validity. The Kaiser – Meyer – Olkin sampling adequacy was .88 and Bartlett's test of sphericity was very significant ($\chi^2 = 1893$; $p < .001$), indicating that the variables entered were suitable for factor analysis. Five factors with eigen values larger than 1 were retrieved and accounted for 59.1% of the variance in the original variables.

Table 2. Factor loadings from the principal component analysis of the SPSI-R: SF

Items	Avoidance	Rational	Negative problem orientation	Impulsivity-carelessness	Rational problem solving
18. I spend more time avoiding my problems than solving them	0.653				
17. When a problem happens in my life, I put off trying to solve it for as long as possible	0.534				
22. I put off solving problems until it is too late to do anything about them	0.510				
4. When my first efforts to solve a problem fail, I give up quickly because finding a solution is too difficult	0.617				
8. If I am faced with a difficult problem, I probably will not be able to solve it on my own no matter how hard I try	0.536				
10. I try to do anything I can in order to avoid problems in my life	0.713				
6. If I avoid problems, they will generally go away on their own	0.635				
21. After carrying out a solution to a problem, I try to evaluate as carefully as possible how much the situation has changed for the better		0.572			
16. When I have a problem to solve, one of the first things I do is get as many facts about the problem as possible		0.745			
19. Before I try to solve a problem, I set a specific goal so that I know exactly what I want to accomplish		0.761			

12. When I have a decision to make, I take the time to try to predict the positive and negative consequences of each possible option before I act	0.727	
23. When I am trying to solve a problem, I think of as many options as possible until I cannot come up with any more ideas	0.745	
13. When problems occur in my life, I like to deal with them as soon as possible	0.606	
5. Sometimes even difficult problems can have a way of moving my life forward in positive ways	0.616	
7. When I cannot solve a problem, I get very frustrated	0.726	
3. I get nervous and unsure of myself when I have to make an important decision	0.717	
11. Difficult problems make me very upset	0.606	
1. I feel afraid when I have an important problem to solve	0.645	
2. When making decisions, I do not think carefully about my many options 25. I am too impulsive when it comes to making decisions	0.616	
24. When making decisions, I go with my "gut feeling" without thinking too much about the consequences of each option	0.645	
14. When I am trying to solve a problem, I go with the first good idea that comes to mind	0.534	
20. When I have a decision to make, I do not take the time to consider the pros and cons of each option	0.555	
15. When I am faced with a difficult problem, I believe that I will be able to solve it on my own if I try hard enough	0.523	
9. Whenever I have a problem, I believe that it can be solved	0.572	

Seven items loaded onto Factor 1, which had an eigen value of 6.33 and 29.7% of the variance. Seven items loaded into Factor 2, which explained 21/3% of the variance with an eigen value of 4.65. Five items loaded into the third factor, which had an eigen value of 3.45 and explained 19.76% of variation. The fourth component, with an eigen value of 3.22, explained 7.4% of the variance and loaded four items. The fifth component, two items with an eigen value of 2.11, explained 5.5% of the variance. Table 2 shows the rotated five-factor model solution.

Five factors—avoidance style (AVE=0.58), rational problem-solving (AVE=0.61), negative problem orientation (AVE=0.54), impulsivity-carelessness (AVE=0.62), and positive problem orientation (AVE=0.57)—have an appropriate average variance extracted (AVE > 50) in the scale, indicating convergent validity. Because AVE coefficients for the five components are greater than correlation coefficients for dimensions, discriminant validity exists (Table 3).

Table 3. Convergent and Discriminant Validity for Problem solving skill scale

	1	2	3	4	5
Factors 1: Avoidance	0.58 ^a				
Factors 2: Rational	0.42 ^b	0.61 ^a			
Factors 3: Negative problem orientation	0.50 ^b	0.38 ^b	0.54 ^a		
Factors 4: Impulsivity-carelessness	0.45 ^b	0.32 ^b	0.62 ^b	0.62 ^a	
Factors 5: Rational problem solving	0.43 ^b	0.44 ^b	0.51 ^b	0.52 ^a	0.50 ^a

Note:

^a average variance extracted.

^b square root of the correlation coefficients of the dimensions.

Reliability

Cronbach alpha coefficients for Bahasa versions of the SPSI-R: SF ranged from 0.722 to 0.886, indicating acceptable internal consistency (Table 2). The internal consistency of each SPSI-R: SF subscale was also investigated. On the avoidance style subscale, the mean score was 0.834, on the rational subscale it was 0.815, on the negative problem orientation subscale it was 0.815, on the impulsivity-carelessness subscale it was 0.843, and on the positive problem orientation subscale it was 0.857 (Table 4).

Table 4. Internal consistency of problem-solving questionnaire scale

	Cronbach' alpha
Total score	0.822
Factors 1: Sensing	0.834
Factors 2: Intuitive	0.915
Factors 3: Feeling	0.722

Factors 4: thinking	0.843
Factors 5: Rational problem solving	0.857

DISCUSSION

This is the first investigation into the psychometric properties of Bahasa translations of the SPSI-R: SF for use by Indonesian midwives. Few studies have studied the psychometric features of this instrument, despite its extensive use in monitoring change in problem-solving behaviors following cognitive-behavioral therapies (D'Zurilla et al., 2002; Hawkins et al., 2009). Thus, the findings of this study may prove to be noteworthy. The vast majority of our results suggest that the SPSI-R: SF has adequate internal consistency and temporal stability among Indonesian midwives.

The findings show that the internal consistency and temporal stability of the Bahasa versions of the SPSI-R: SF were satisfactory. The subscale measuring negative problem orientation had the lowest levels of internal consistency, followed by the subscale measuring impulsivity-carelessness; the subscale measuring avoidance style had the highest levels of internal consistency. Internal consistency was lowest for the impulsivity-carelessness and positive problem orientation subscales, whereas it was highest for the avoidance style subscale (D'Zurilla et al., 2002; Sorsdahl et al., 2015). This indicates that the Bahasa versions of SPSI-R: SF behave similarly to the original version.

As hypothesized (D'Zurilla et al., 2002; Hawkins et al., 2009), the factor structure of the SPSI-R: SF (Bahsa version) was similar to the five-factor structure reported in the literature (D'Zurilla et al., 2002; Hawkins et al., 2009). The positive problem orientation scale examines a constructive problem-solving cognitive set, whereas the rational problem-solving scale evaluates the rational or deliberate use of effective problem-solving abilities. These findings contribute to the body of knowledge by demonstrating that the factor structure of the SPSI-R: SF (English version) is relatively stable across cultures and populations.

The limitations of this study must be taken into account when evaluating its results. The sampling is not representative; hence the results may not be applicable to other groups of Indonesian midwives. We do not know if this sample is skewed because we did not gather information on the number of people who were approached but declined to participate in the study or their reasons for declining. Although the SPSI-R: SF examines how individuals see problems and themselves as problem solvers, it is unknown to what degree this self-evaluation is true or represents actual problem-solving skill. To thoroughly evaluate the psychometric features of the Bahasa variants of the test, additional study is required.

This research improves our understanding of the psychometric features of the SPSI-R: SF among Indonesian midwives. Results indicate that the SPSI-R: SF (Bahasa version) is a reliable and valid instrument for assessing social problem-solving ability in the context of midwifery. This result gives additional evidence that the SPSI-R: SF is a valid instrument for measuring social problem-solving styles. Additional research is also required to establish the construct, convergent, and predictive validity of this instrument's Bahasa variants.

CONCLUSION

In conclusion, the SPSI-R: SF (Bahasa version) scale showed adequate internal consistency and validity. Moreover, the 5-factor model was preferred over the unidimensional model. This instrument will enable us to assess functional and dysfunctional cognitive and emotional orientations towards solving life problems.

Declaration of Conflicting Interests

All authors declared no potential conflicts of interest.

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