【原著論文】

日本語版 Suicide Intervention Response Inventory の妥当性

The Validity of the Japanese Version of the Suicide Intervention Response Inventory

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【Abstract】
Background : Despite a suicide rate that is higher than 30,000 people annually since 1998, studies and related efforts regarding suicide prevention in Japan have been insufficient. In particular, the assessment and evaluation of suicide prevention training is a pressing matter. Aims : This study investigated the validity of a Japanese version of the Suicide Intervention Response Inventory (SIRI-J) . Methods : We assessed the SIRI-J by questioning 202 health professionals who attended our training programs for suicide prevention. Results : We found that the SIRI-J had good internal consistency and that participants' scores on the SIRI-J improved following the training sessions. There were no significant relationships between SIRI-J scores and demographic variables. Furthermore, we found that clinical psychologists had better suicide intervention skills compared with psychiatric social workers and public health nurses. Conclusion : The SIRI-J has an acceptable level of validity, but further research is necessary to explore other related variables and to improve the psychometric properties of this scale.

I. Introduction

Despite a suicide rate that is higher than 30,000 people annually since 1998, studies and related efforts regarding suicide prevention in Japan have been insufficient. To help address this situation, the Basic Law on Suicide Countermeasures came into effect in June 2006, and was immediately followed by the launch of a Comprehensive Suicide Prevention Initiative (CSPI). After launching the CSPI, the Japanese government allocated new funds for suicide prevention programs, and several investigations using randomized controlled trials as well as regional intervention studies have generated evidence for further policy making [7]. The CSPI demanded the implementation of several programs for local governments, including the development of human resources for suicide prevention. Consequently, a large number of training programs for suicide prevention have been initiated in local prefectures throughout Japan. Despite this trend, most of the training programs have not incorporated assessments or evaluations of their effectiveness. Thus, the assessment and evaluation of suicide prevention training is now a pressing matter.

To date, a number of studies have provided evidence for the effectiveness of suicide prevention training programs [11]. Furthermore, several investigations have reported an increase in specific participant characteristics such as knowledge, skill, and confidence as indices of the efficacy of training [8]. Particularly, suicide intervention skills such as confronting covert communication of suicidal intent and facilitation of the expression of painful feelings [20] are essential components in crisis intervention.

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To assess suicide intervention skills, a number of studies have adopted the Suicide Intervention Response Inventory (SIRI) [15, 18], which is one of the most validated and reliable scales. The SIRI has been used by more than 100 suicide and crisis intervention centers throughout North America for volunteer screening and as a component of paraprofessional training programs [20]. In addition, it has been used to assess the effects of suicide and crisis intervention training [1, 5, 6, 14, 18, 22, 25].

The Japanese Version of the SIRI (SIRI-J) was developed in our previous studies [9, 10]. As part of the development of the SIRI-J, experts in suicide prevention and clinical psychology in Japan evaluated all of the items in the scale. This was done to ensure the face validity of the SIRI-J. After translation from English to Japanese, all items of the SIRI-J were then back-translated, and the similarity between the original SIRI and the SIRI-J was confirmed by the original author (Prof. Robert A. Neimeyer). Kawashima et al. [10] recruited 108 participants at a training program for suicide prevention, and succeeded in demonstrating the validity and reliability of the scale. They found that the SIRI-J had good internal consistency (a = .71 (pretest) and .73 (posttest)). Furthermore, they suggested that participants' skills rated by SIRI-J were improved by the training sessions, supporting the construct validity of the scale, which is sensitive to training effects. However, the previous study was limited in its consideration of the validity and reliability of the SIRI-J. Thus, the current study considered the further validity of the SIRI-J.

Previous findings showed that there were no significant relationships between SIRI scores and demographic variables, such as gender, age, and years of career experience [15, 17, 24]. Furthermore, Scheerder et al. [24] reported that self-ratings of suicide intervention skills, i.e., confidence in suicide intervention, were related to SIRI scores. Previous studies also have reported that SIRI scores differ in individuals who have different amounts of suicide-specific training and experiences [3, 15, 16, 17, 18, 21, 23, 24]. For example, a study by Richards and Range [23] suggested that graduate students in psychology have considerably better suicide intervention skills, as indicated by lower SIRI scores, than graduate students in nursing. Originally, the SIRI was developed as a scale to assess suicide "counseling" skills [15], and thus, the scale might assess aspects of suicide intervention skills which are used during counseling sessions. Not surprisingly, suicide intervention counseling skills, as indicated by scores on the SIRI, are significantly related to general counseling skills, which reflect the convergent validity of the scale [18, 19].

Therefore, we considered the relationship between the SIRI-J and the demographic variables. The correlation between confidence in suicide prevention and SIRI-J was also examined. Furthermore, we hypothesized that psychologists would obtain better scores than other health care professionals, as demonstrated by the construct validity, calculated using the known groups method.[15]

II. Method

1. Participants

We recruited 202 participants (86.0%) from the 235 attendees at training programs for suicide prevention. The two-day training programs were organized by the National Institute of Mental Health, National Center of Neurology and Psychiatry, and took place from January 2007 to October 2008. The aim of the training programs was to provide health professionals with accurate knowledge and improve their counseling skills for assisting suicidal clients. We asked participants to answer a questionnaire before and immediately after training sessions. All participation in this study was voluntary.

2. Measures

The questionnaire contained the following instruments.

Demographic information. The demographic questionnaire contained multiple-choice questions concerning gender, age, professional group, and years of career experience.

The Japanese Version of the Suicide Intervention Response Inventory. The SIRI-J is a self-administered questionnaire comprising hypothetical client remarks followed by two possible "helper" replies [9, 10]. The SIRI-J consists of 48 items. The scoring of the SIRI-J is based on a 7-point Likert scale ranging from +3 (highly appropriate response) to -3 (highly inappropriate response) as in the Suicide Intervention Response Inventory 2 (SIRI-2).[Note1] Scores on the SIRI-J are obtained by comparing the respondent's rating for a particular item to the mean rating assigned by a criterion group of experts [15, 20]. In other words, scores on the SIRI-J represent discrepancies from criterion scores of expert panelists, and lower scores indicate better performance.

Confidence in suicide prevention. The confidence of participants in their ability to prevent suicide was assessed with a single item question, which asked respondents to rate their confidence in identifying suicidal clients (i.e., "I can recognize the latent suicidal risk of clients.") on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

3. Analysis

Preliminary analysis. Descriptive statistics of the demographic variables, i.e., age, gender, profession, years of career experience, and confidence, were calculated before the main analysis. We then assessed the relationship between the profession of the participants and other demographics. In the analysis, we used scores of the participant confidence obtained before the trainings. We used chi-square tests to examine differences in gender and age with respect to the professional groups. To examine the relationship between professions, years of career experience, and confidence, we used a one-way ANOVA and Tukey's HSD test. Data were analyzed using SPSS 19.0.

Main Analysis. First, descriptive statistics and computation of the SIRI-J score were conducted. To consider the internal consistency of the SIRI-J, we used Cronbach's alpha score. We used the t-test to examine the sensitivity of training effects to confirm construct validity. Then we conducted a t-test to examine differences in gender with respect to the SIRI-J score. To examine the relationship between the SIRI-J and age of the participants, we used a one-way ANOVA. We also calculated pearson correlation coefficients to consider the relationship between the SIRI-J and years of career experience, and confidence. Furthermore, we focused on three groups of health professionals (clinical psychologists, psychiatric social workers, and public health nurses) to use the known groups method for investigating further construct validity. Using one-way ANOVA, we examined the hypothesis that clinical psychologists would obtain better scores on the SIRI-J than other professionals. We used the SIRI-J scores obtained before trainings. As previously noted, we hypothesized that clinical psychologists would have better suicide intervention skills, and thus lower SIRI-J scores, than other professionals. Data were analyzed using SPSS 19.0.

Ⅲ. Results

1. Characteristics of the participants

The demographic characteristics of the participants are shown in Table 1. There were 48 male participants and 154 females. Almost one third of the participants were in their 30s (37.1%). The professions of the participants were divided into three groups : clinical psychologists (54.5%), psychiatric social workers (19.3%), and public health nurses (26.2%). The average number of years of career experience was 12.89 (SD = 9.86). The mean score of confidence in identifying suicidal clients was 3.23 (SD = 0.87).

TABLE 1. Participants' Characteristics

	N	%
Gender		
Male	48	23.8
Female	154	76.2
Age		
20-29	27	13.4
30-39	75	37.1
40-49	63	31.2
>50	37	18.3
Professional groups		
Clinical psychologist	110	54.5
Psychiatric social worker	39	19.3
Public health nurse	53	26.2
	Mean	SD
Years of experience in current career [a]	12.89	9.86
Confidence to identify suicidal clients [b]	3.23	0.87

[a] Number of participants was 201.

[b] Confidence ranged from 1 (strongly disagree) to 5 (strongly agree).

TABLE 2. Professional Groups and Characteristics

N (%)			χ2 (P value)
	CP a	PSW a	PHN a	
Gender				
Male	28(25.5)	18(56.3)	2 (3.3)	22.66 (p < .001)
Female	82 (74.5)	21(53.8)	51(96.2)	
Age				
20-29	19 (17.3)	7 (17.9)	1 (1.9)	34.66 (p < .001)
30-39	53(48.2)	13(33.3)	9 (17.0)	
40-49	23(20.9)	10(25.6)	30(56.6)	
>50	15 (13.6)	9 (23.1)	13(24.5)	

M (SD)			F (P value)
	CP	PSW	PHN	
Years of experience in career[b]	10.41 (8.46)	12.03 (8.99)	18.67 (10.91)	14.44 (p < .001)
Confidence to identify suicidal clients[c]	3.05 (0.88)	3.28 (0.89)	3.57 (0.72)	6.91 (p = .001)

[a] CP is clinical psychologists, PSW is psychiatric social workers, PHN is public health nurses.
[b] Number of participants was 201.
[c] Confidence ranged from 1 (strongly disagree) to 5 (strongly agree).

As shown in Table 2, we found significant differences in male to female ratio ($\chi2 = 22.66$, p < .001) and in age distribution ($\chi2 = 34.66$, p < .001). Furthermore, we found a significant difference among professions in years of career experience (F (2, 198) = 14.44, 95% CI 11.52 to 14.26, p < .001), with public health nurses (M = 18.67, SD = 10.91) reporting more career experience than clinical psychologists (M = 10.41, SD = 8.46) (Mean Difference = 8.26, 95% CI 4.61 to 11.92, p < .001) and psychiatric social workers (M = 12.03, SD = 9.86) (Mean Difference = 6.64, 95% CI 1.99 to 11.29, p = .003). There were significant differences in participant confidence among the different professional groups (F (2, 199) = 6.91, 95% CI 3.11 to 3.35, p = .001). Specifically, public health nurses (M = 3.57, SD = 0.72) reported more confidence than clinical psychologists (M = 3.05, SD = 0.88) (Mean Difference = 0.52, 95% CI 0.19 to 0.85, p = .001).

2. Psychometric properties of the SIRI-J

The SIRI-J had a Cronbach's alpha score of .73 (pretest) and .75 (posttest). Then, we demonstrated that there was a difference in scores obtained on the SIRI-J before and immediately after suicide prevention trainings (N = 199). The mean SIRI-J score before the training sessions was 56.02 (SD = 12.27), and the mean SIRI-J score after the training sessions was 52.04 (SD = 12.53). As expected, participants' scores, and presumably their suicide prevention skills, were improved by the training sessions (t (198) = -5.60, Mean Difference = -3.98, 95% CI-5.38 to -2.58, p < .001).

We did not find significant differences of the SIRI-J score between males (M = 55.90, SD = 12.52) and females (M = 55.91, SD = 12.16) (t (200) = -.01, Mean Difference = -.01, 95% CI -4.00 to 3.98, p = .99). Furthermore, there were no significant differences with age in the SIRI-J score (F (3, 198) = 1.98, 95% CI 54.22 to 57.61, p = .12). We also did not find any significant relationships between scores on the SIRI-J and other variables

such as years of career experience (r = .03, p = .70) and the participants' confidence in suicide prevention (r = .04, p = .57).

Using one-way ANOVA, we examined the hypothesis that clinical psychologists would obtain better scores on the SIRI-J than other professionals. We found that there were significant differences between scores obtained before the training by participants in the three professional groups (F (2, 201) = 6.33, 95% CI 54.22 to 57.61, p = .002). Further analysis, using Tukey's HSD test, revealed that clinical psychologists (M = 53.19, SD = 11.71) scored lower than psychiatric social workers (M = 58.84, SD = 13.15) (Mean Difference = -5.65, 95% CI -10.89 to -0.41, p = .03) and public health nurses (M = 59.40, SD = 11.33) (Mean Difference = -6.21, 95% CI -10.91 to -1.51, p = .006).

IV. Discussion

Psychometric Properties of the SIRI-J

We found that the SIRI-J had good internal consistency and showed acceptable reliability. The internal consistency found in this study was lower than in some previous reports [15][23], but was compatible with the findings of Kawashima et al. [10] and Scheerder et al.[24] We also demonstrated that there is a difference in SIRI-J scores before and immediately following suicide prevention training sessions. As expected, participants' skills, as represented by SIRI-J scores, were improved by the training sessions. This finding highlights the construct validity, which is sensitive to training effects [3][9][15][18]. There were no significant relationships between SIRI-J scores and demographic variables such as gender, age, and years of career experience. This is consistent with previous studies that have also reported no significant relationship between SIRI scores and demographic variables [15][17][24]. We did not find any relationship between SIRI scores and the participants' confidence in suicide prevention. This is inconsistent with the findings of Scheerder et

al. [24], who reported that self-ratings of suicide intervention skills were related to SIRI scores. Perhaps future studies could include more variables and/or validated measures of confidence to elucidate this issue. We further examined the construct validity using the known groups method, and hypothesized that clinical psychologists would have better suicide intervention skills compared with other professionals. We found that clinical psychologists did have better suicide intervention skills compared with psychiatric social workers and public health nurses. This result supports our hypothesis, and the construct validity of the SIRI-J was confirmed. In addition, this finding showed some differences amongst professional groups, which is a topic that has received little attention [24].

Reconsidering Suicide Intervention Skills

Previous research has highlighted the importance of mental health training, especially psychiatric training, in improving suicide intervention skills [16][21][23]. However, some of these results were not necessarily replicated in the earlier studies. For example, Palmieri et al. [23] reported that nurses who work in the accident and emergency units of hospitals were more skilled in suicide intervention than psychiatric nurses. Scheerder et al. [24] pointed out that experienced volunteers at a suicide crisis line had greater suicide intervention skills than mental health professionals, despite a lack of formal mental health training. In this study, we did not find any difference in scores on the SIRI-J between psychiatric social workers and public health nurses.

As previously noted, the SIRI was developed to assess suicide counseling skills [15]. It is possible that the scale is effective primarily in assessing suicide intervention skills used in counseling settings in which professionals have a one-on-one relationship with clients. However, other types of caregiver-patient relationships may be encountered when clients are treated by health professionals other than psychologists [26]. For

example, social workers are usually expected to engage in connecting suicidal clients with social resources such as lawyers or related professionals when the clients' suicidal ideation appears to be associated with debt [13]. Another example is public health nurses, who are usually required to treat not only patients' mental health issues but also physical symptoms. It is apparent that there is a comprehensive and multifaceted skill set required for suicide intervention [15], and the SIRI may not fully capture this skill set.

Implications and Further Directions

Despite confirming some of the positive psychometric properties of the SIRI-J, there are several limitations of this study, as noted below. First, we used a single item question of the participants' confidence in suicide prevention, but its validity and reliability were unknown. Previous studies [4,5,9,12,14] considered confidence in suicide prevention by using unvalidated scales, and thus faced a similar challenge. Furthermore, we did not consider the participants' experience in dealing with suicidal clients, although this might be associated with SIRI scores [17,24]. These issues should also be considered in future studies.

Second, the SIRI is a self-administered questionnaire, and thus the outcome represented by this data may be different from an assessment of skills when rated via behavioral measures such role-play evaluation [24]. Despite the challenges of behavioral assessment [20], recent studies have used role-playing or other observational methods to assess suicide intervention skills [4,6,12]. In future studies, it would be helpful to examine the relationship between behavioral assessment of suicide intervention skills and SIRI scores to assess the ecological validity of the scale.

Finally, we did not investigate cultural differences with respect to suicide intervention skills. Brown and Range [2] indicated that the SIRI is more appropriate for European American than African American populations, and emphasized the importance of carefully examining cultural

differences. Palmieri et al. [21] suggested that professional knowledge about suicide prevention is deeply grounded in the cultural context, so it seems likely that issues addressed by the SIRI might vary with cultural background. Furthermore, the SIRI-2 used the mean scores of a group of experts as the baseline score, and these experts were recruited mostly from North America. The SIRI-J adopted the baseline scores from the SIRI-2, which are thus related to the validity and reliability obtained in this study. However, the adequate management and treatment of suicidal clients may differ with different cultural contexts, and so we should consider using a more culturally appropriate group of experts to create the baseline scores for future studies [10].

In conclusion, the SIRI-J has acceptable levels of validity, but further research is needed to explore related variables and improve the psychometric properties of this scale.

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Note

1) The original SIRI consists of 25 items, and
respondents are asked to select the more

appropriate helper reply for each remark. The respondent's total score simply represents the number of correct responses[18]. Although the original SIRI is a useful and validated scale, it is seriously limited by its potential ceiling effect. To resolve this problem, Neimeyer and colleagues [15, 20] developed the SIRI-2, which consists of 48 items. The SIRI-2 had a revised scoring system, and the dichotomous scale was replaced by a 7-point Likert scale. Scores on the SIRI-2 are obtained by comparing the respondent's rating for a particular item to the mean rating assigned by a criterion group of experts.