A Qualitative Evaluation and Cross-Cultural Adaptation of the Short Form of the Sense of Coherence Scale (SOC-13) in Nepali

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ABSTRACT

Background

Sense of Coherence (SOC) relates to an individual's overall life orientation, and stronger SOC is associated with better health, quality of life, and coping strategies. When our research group used the SOC-13 questionnaire for the first time in Nepal, we identified difficulties in response patterns. The findings necessitated further evaluation of the Nepali version of the SOC-13 questionnaire.

Objective

To qualitatively evaluate the SOC-13 questionnaire in Nepali for cross-cultural adaptation.

Method

Nineteen nurses were interviewed. We used the methodological approach of "think aloud" to obtain a deeper understanding of the interferences of the scales. Transcribed materials were analyzed using a deductive approach through qualitative content analysis. The original translated version of the SOC-13 questionnaire in Nepali was modified by replacing words that were easier to understand.

Result

Participants found the questionnaire content general and non-specific but easy to complete. The nurses experienced that the meanings and sentences in some of the items and response alternatives were difficult to understand. However, the overall comprehensiveness of most items and response alternatives was perceived as good. Nurses' interpretation of the SOC-items in the translated version of the SOC-13 questionnaire in Nepali matched the original English version. Items that were experienced as difficult in the Nepali language were modified to increase their comprehensiveness. Modified items and response alternatives had the same content as before, but some words and meanings were substituted with easier language.

Conclusion

The current revised version of SOC-13 in Nepali is valid and useful to explore individuals' overall life orientation and their abilities to deal and cope with various life events in the Nepalese context.

KEY WORDS

Health resources, Qualitative validation, Resources, Ralutogenesis, Sense of coherence

INTRODUCTION

The Ottawa Charter for Health Promotion emphasizes the importance of enabling people's abilities to deal with stressors. Health promotion means to increase control over and improve people's health.[1] The concept of health promotion is close to Antonovsky's theory of salutogenesis, with health as a continuum from health to ill health/disease (the ease-dis/ease continuum).[2,3] Salutogenesis represents a life orientation and resource perspective that focuses on solving problems and improving and maintaining health rather than seeking causes of illness and disease.[2-4] Sense of coherence (SOC) is the key concept of salutogenesis; it reflects an individual's life orientation, capacity, and coping abilities through the understanding of three components: comprehensibility, manageability, and meaningfulness.[3]

Antonovsky developed the SOC questionnaire for cross-cultural use worldwide.[3] The SOC questionnaire has been translated into at least 51 languages in 51 countries, and is cross-culturally validated.[5-8] Stronger SOC associates with better coping abilities, stress tolerance, mental health, and general health.[3,9-13] The SOC-13 questionnaire is used to explore the SOC of individuals or groups.[8,14] We identified difficulties in response patterns when we used the SOC-13 questionnaire for the first time in Nepal.[15] Using previously validated and utilized questionnaires saves resources, but it is important that the questions are worded such that they are easily understood by the participants and are in accordance with their culture.[16] Therefore, the current study was undertaken to qualitatively evaluate the SOC-13 questionnaire in Nepali for cross-cultural adaptation.

METHODS

A qualitative design with a deductive approach was chosen. For the qualitative evaluation of the SOC questionnaire, we followed the guidelines of evaluating a scale qualitatively.[17,18] To obtain a deeper understanding about the interferences of the SOC- scales, we used the methodological approach of "think aloud" described by Drennan.[19] "Think aloud" is inspired and developed through cognitive interviewing, which means asking participants their views of the survey questionnaire, thus allowing the understanding of their perspectives.[19]

Nineteen native registered nurses working in different hospitals in the Kathmandu Valley were recruited as participants using convenience sampling. They were recruited in parallell with another study that focused on exploring nurses' experiences regarding their work-related health. Each participant was working between 75-100% of fulltime work and had a minimum of one year of experience working as a registered nurse in Nepal. The mean age of the participants was 31.8 years, and the mean work experience was 10.9 years. Seventeen participants had a bachelor's degree and two had a master's degree.

The original SOC questionnaire was developed by Antonovsky.[3] The most frequently used questionnaires consist of either 29 items or 13 items. We used the SOC-13 questionnaire in Nepal. The response alternatives in the SOC-13 questionnaires are on a semantic scale from 1 to 7. The respondents indicate agreement or disagreement on a 7-category semantic differential scale with two anchoring responses tailored to the content of eachitem. Five items (1, 2, 3, 5, and 7) are reversed before summing the total score. The score can range from 13 to 91; a higher score indicates higher SOC. The SOC-13 scale measures an individual's life orientation by evaluating comprehensibility (five items), manageability (four items), and meaningfulness (four items).[3]

This study was performed in the Kathmandu Valley, where also Nepal's capital city Kathmandu is located. The participants recruited in this study worked in five large hospitals in Kathmandu. We used purposive and snowball sampling methods. The second author (MS) established first contact with one of the department managers in the hospitals and mediated contact with the first author (DRT). The department managers then contacted potential participants. Once recruited, each potential participant was asked to contact a friend or colleague working as a nurse in different departments of the same hospital or another hospital. The first author contacted the participants, and they decided on a place to meet. Participants were provided complete information orally and in writing about the study, the interview process, and their anonymity, confidentiality, and right to leave the study at any time without explaining the reason. Participants decided on the time and place to be interviewed.

The first author conducted the interviews between October 6 and December 5, 2018. Participants provided written consent before participating in the interviews. The interviews were performed individually. Participants were provided with a Nepali version of the SOC-13 questionnaire during the first face-to-face contact. This enabled them to go through the items and response alternatives before the interview. During the interview, each participant read each item aloud, marked a suitable response alternative, and described the interpretation of the items; they also provided reasons as to why they chose a particular response alternative. Furthermore, the nurses described their overall experiences regarding the comprehensiveness of the items (see the evaluation guide in table 1). The SOC-13 questionnaire has seven different response alternatives for each item.

Participants were given the opportunity and time to read the questions several times and reflect on the content to ensure that they understood the questions. Further questions to clarify the responses were asked; for example, why did you choose that particular number? What does that particular response mean to you? How understandable was the item? If the item was difficult to understand, what

Table 1. SOC evaluation guide for one of the questions with a response example by one participant

Question number X from the SOC-13 scale	Interpretation and perception	Meaning of low-score responses	Meaning of high-score responses	Participant's overall experiences
Do you have the feeling that you are in an unfamiliar situation and don't know what to do?	I interpreted it as if I don't know what I am doing but became confused about what unfamiliar means	-	Graded:6, I mostly feel that I know what to do and am sure about things to do	Confusing about what kind of situation that is unknown, not clear about this

were the difficulties? All interviews were tape-recorded and transcribed verbatim for analysis. The interviewing author also took notes during the interview.

Ethical permission was obtained from the Nepal Health Research Council (Ref. 684, 26 September 2018). Information about the study and as well as the voluntariness to participate was given to all respondents. Informed consent was obtained before the interviews began. All personal data were secured and stored. Results were presented without personal identifiable information. Participants were provided coffee and snacks after completing the interviews, but no incentives were provided for the participation.

We used deductive qualitative content analysis.[20] All transcribed materials were read and re-read several times and sorted according to the evaluation guide (Table 1) for each participant's response. Responses from 19 participants were then compared to identify possible differences and similarities and where then summarized (Table 2). For validation purposes, response alternatives of the SOC-13 questionnaire between 1 and 4 were categorized as low-response alternatives and 5 and 7 were categorized as high-response alternatives.

Overall experiences of each SOC item and response alternatives regarding comprehensiveness were also summarized separately.

During the analysis of the SOC-13 validation of this study, we identified challenges in understanding words and meanings of some items and response alternatives. We therefore further evaluated the translation of the SOC-13 questionnaire in its Nepali version. The items that participants experienced as easy to respond to remained unchanged. The items and response alternatives for which participants experienced difficulties regarding comprehensiveness were changed, substituted by simpler words by the first author, and then discussed with two research experts. All three researchers have Nepali as their mother tongue and are fluent in both Nepali and English. We triangulated the changes among the three authors. To confirm that the translation was correct, we rechecked and compared with the English version of the SOC-13 questionnaire and subsequently revised it so that it became more suitable and easier for the respondents to respond to.

RESULTS

Nurses' evaluation of the items in the SOC-13 questionnaire in Nepali

The summary of respondents' evaluation of the SOC-13 questionnaire is presented in table 2. It includes the interpretation or perception of the item and the meaning of low respective high-score response alternatives. For the evaluation purpose, responses between 1-4 were categorized as low-responses and 5-7 were categorized as high-responses.

All the items in the SOC-13 questionnaire were interpreted logically such that they matched the meaning of the English version of the questionnaire. However, the participants experienced difficulties regarding some of the items that were too general and not specific enough regarding the situation they were enquiring about. Respondens expressed that the items should provide sufficient detailed information about what type of life events they referred to. We also found that some items were perceived to have two different meanings. High and low responses matched the meaning of SOC-13 items according to the English and Nepali versions of the questionnaires.

Overall experiences of the SOC-13 questionnaire in Nepali

Nurses felt that the SOC-13 questionnaire in the Nepali version was understandable. However, the general thoughts were that a few items in the questionnaire were described in too general terms and did not indicate specific events. That made responding to these items challenging.

Respondents experienced items 3, 4, 7, 12, and 13 as easy, while remaining items were medium-difficult in terms of either that the items were perceived to describe broad events that are general, were not specific about the types of life events, or were experienced to be vast due to the language used. For instance, one nurse commented on item number 5 as follows: "The type of unfairness was not mentioned in the question. There can be physical, emotional, and other types of unfairness." Another nurse experienced that question number 11 could be interpreted as not precise about the period, "I do not understand time or period in life, when in life, for instance, in the past or ongoing events?" Six nurses described question 11 as difficult; they did not understand what "something happened" meant. Nurses therefore wished that the

Table 2. **Manuscript Qualitativeevaluation Thapa et al.[15]**

Scale Items	Range (n=19)	Nurses described the perception of the item	Low-score responses	High-score responses
Do you have the feeling that you don't really care about what goes on around you?	1-7	Not caring about the things that are going on around me	Do care about the things happening around me	Do not care about the things happening around me
Has it happened in the past that you were surprised by the behavior of people whom you thought you knew well?	3-7	If anybody who you know very well has changed their behavior that is surprising	Know such people who changed their behavior sometimes, not surprised	Mostly surprised by the treatment or the behaviors by others
Has it happened that people you counted on disappointed you?	3-7	If someone you trusted did something disappointing	Never or sometimes, it has occurred that someone has disappointed me	It has occurred that someone always or mostly disappointed me
Until now your life has had a clear goal	5-7	If there is a clear vision or aim or goal in life	Have a less clear goal/aim/ vision	Always or mostly have vision, aim, or clear goals
Do you have the feeling that you have been treated unfairly?	2-7	Being treated unfairly by others	Experienced many times being treated unfairly	Experience seldom to be treated or less being treated unfairly
Do you have the feeling that you are in a unfamiliar situation and don't know what to do?	1-7	Be in situations where you don't know what to do	Often don't know/unknown to what to do in the situation	Have not been in such situations or know what to do in such situations
Doing the things you do every day is:	2-7	The feeling of daily activities	Feel mostly that the activities are enjoyable	Do not feel happy or joyful about the activities that much
Do you have very mixed feelings and ideas?	1-7	If different thoughts come	Such thoughts come mostly or always	There are fewer different thoughts or have not had many mixed feelings
Does it happen that you have feelings inside you would rather not feel?	1-7	If there is a wish that these thoughts would not have come	Quite often or often some bad feelings or thoughts would not have come	It does not really matter/ do not care even if it would have come
Many people - even those with a strong character- sometimes feel like sad sacks (losers) in certain situations, how often have you felt this way in the past?	1-6	Even stronger people with strong spirits can feel weak or sad sometimes	Never have such feelings to be weak or sad	Feel sad or there is often a feeling of weekness or sadness
When something happened, you have generally found that	1-7	Interpretation of the situation which has happened	Thinking of the situation more or less than the reality	Whatever happened, that was the reality/have more acceptance
How often do you have feelings that there is little meaning in the things you do in your daily life?	1-7	If there is no meaning of the things or activities which are done	Have often feelings that activities are not meaningful or have less meaning	Activities are mostly or quite often meaningful
How often do you have feelings that you are not sure you can keep under control?	1-7	If there is control of the feelings which come	Have often no control over the feelings	Feelings can be mostly controlled

question should have been more specific, indicating what "something" referred to. One nurse said, "When it is said anything happened, what does it refer to? It is confusing because it is not specific."

After the analysis of nurses' experiences regarding the identified language difficulties, we determined that the translated Nepali version of the SOC-13 questionnaire required further modification. We observed that the words used for the response alternatives of several items could be substituted. Thus, discussions among the authors led to the substitution of difficult words for simple and easier ones.

DISCUSSION

We qualitatively evaluated the Nepali SOC-13 questionnaire among nurses in Kathmandu. Overall, despite some minor issues of understanding, the SOC-13 questionnaire in Nepali was useful for determining SOC. However, the participants expressed that the questionnaire was mostly general and not specific. The participants also stated that the words and meanings of the translation were vast in Nepali. As the SOC concept is relatively new in the Nepali context, it is important to provide the respondents with enough time to read, re-read, and reflect; the researcher needs to explain the content of the items and response alternatives.

In our first study, data collection based on the SOC-13 questionnaire was done by educated and trained supervisors as the respondents largely had a low education level; the SOC-items were not self-assessed by the participants as in the current study.[15] Selecting nurses as participants allowed the SOC-13 questionnaire to be evaluated from a group with a higher education level with at least a

bachelor's level education. Nurses could themselves read and respond to the SOC-13 questionnaire. Therefore, this evaluation adds further value of the SOC items that can be adapted to respondents with higher education levels in the Nepalese context. According to Setiati, it is important to take into account education level when questionnaires are implemented in a new cultural context.[16] The language of the questionnaire needs to be at the level of participants' understanding.[16] Thus, the evaluation of the questionnaire in a group of respondents with a higher education level and pre-test in a group with a low education level increases the utility of the SOC-13 questionnaire in the Nepali context.

Antonovsky stated that SOC is a cross-cultural concept and that stronger SOC plays an important role in managing stressors and presenting better coping strategies among individuals in all cultures.[3] The earlier cross-cultural validation of the SOC questionnaire suggested that SOC is an important resource for managing stress and staying well in different cultural settings.[14] However, we earlier found that there was difficulty in understanding SOC items, as many items were left unanswered in our previous study.[15] Our current evaluation of SOC is based on the comprehensiveness of the translated Nepali version of the SOC-13 questionnaire. As stated by Antonovsky, the SOC questionnaire can undergo necessary changes to be adapted to different cultural settings; he emphasized that the changes can be made by securing the same content that SOC intended to measure initially.[8] In line with Antonovsky, we found that the questionnaire needed to be edited so that meanings and sentences could be easily understood, but the content remained the same.[3]

The nurses in our study experienced some of the SOC items to be too general and not specific enough about any particular situation, which confused them. However, the items' characteristics in the SOC questionnaires are originally constructed to be general to identify global life orientation. The SOC questionnaire is general so that it allows the respondent to think of what comes to their mind spontaneously and to think about external stimuli that may have occurred in the past.[3] Therefore, the items in the SOC questionnaire should not be too specific about any event and not too precise about the kind of stimuli. Hence, the items should be general to allow the participants to reflect upon and catch the essence of the items. Since the development of SOC is based on a theory, it is important to explain to the participants the nature of SOC components from the beginning to allow them to be spontaneous while responding to the questionnaire. Even if changes are made to the questionnaire, the overall content of the items should remain the same for the original meaning of the SOC items to be maintained as intended by Antonovsky.[3]

Further evaluation of the translation of the SOC-13 questionnaire in Nepali

The nurses experienced difficulties in understanding words and meanings, which made some of the SOC items difficult to interpret in the current study. Identifying this issue, we looked further at the translation of the previous version of SOC-13 in Nepali.[15]

The SOC questionnaires have earlier been translated through several different translation methods, e.g. literal translation, reformulation, and transposition.[5] Our first attempt for the Nepali version was carried out through literal translation.[15] Potential difficulties regarding languages can be the literal translations in some of the items because the translated meanings may not be tied to local realities. The importance of translation should not be only in translating the meaning but also in matching the specific issues, cultural meanings, and local literary forms.[16] Participants in the first study were assisted by a trained supervisor for their responses; in the current study we modified sentences and meanings by substituting the original word by another word that increased the comprehensiveness of the items.[15] Discussions of phrasing was conducted several times among co-authors until a consensus was reached. We concluded that the modified current version of the SOC-13 questionnaireincreased the comprehensiveness of the items and response alternatives. An example of a SOC-13 questionnaire item in English and the translated version in Nepali is:

English Q9: Does it happen that you have feelings inside you that you would rather not feel? (C)

1	2	3	4	5	6	7
Very often					Very seldom or never	

Nepali ९. के तपाईमा जुन भावना वा वचार आइरहेको छ – त्यो भावना वा वचार नआइदिएको भए हुन्थ्यो भन्ने लाग्छ ? (C)

१	२	३	४	५	६	७
प्राय जसो लाग्छ						कहिलेकाँही मात्र लाग्छ / कहिल्यै लाग्दैन

The full version of the SOC-13 questionnaire in both English and Nepali can be obtained with permission from the Society for Theory and Research on Salutogenesis at www.stars-society.org.

Methodological considerations

For the qualitative evaluation of the SOC questionnaire, we followed the guidelines for evaluating a scale qualitatively. This method was initially inspired and developed through cognitive interviewing, known as "think aloud".[19] Cognitive interviewing is to ask participants their view of the survey questionnaire, which allows understanding of participants' perspectives.[19]

For the practical instructions regarding the evaluation, we followed Thorstensson et al.[18] This type of validation is criticized as overly subjective and artificial but is useful to evaluate questionnaires that are complex and can be sensitive for any particular group of people.[19] SOC is a newly used questionnaire in the Nepalese context. Therefore, obtaining insight into the experiences of respondents about

the SOC-13 questionnaire is essential. The knowledge provided through the respondents' perspectives provides a deeper and broader comprehensiveness of the items and response alternatives. Qualitative and subjective validation is necessary for the future successful use of the SOC-13 questionnaire in the Nepalese context.

CONCLUSION

The Nepali version of the SOC-13 questionnaire is now qualitatively evaluated and can be useful in the Nepalese context. However, depending on the education level and cultural context within the country, participants may need assistance to understand the SOC-13 questionnaire properly. Furthermore, the SOC questionnaire needs to be explained to the participants regarding SOC components and the purpose of their responses. The current Nepali version of the SOC-13 questionnaire can be useful to identify individuals' overall life orientation in the Nepalese context. Future studies on SOC can focus quantitatively on the validity and reliability of the SOC questionnaire in a larger sample.

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