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Validation of Pakistan Sign Language Version of Familial Social Support Questionnaire for Hearing Impaired Adolescents

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Abstract

This paper attempts to study translating manners evolving while translating a scale into Pakistan Sign Language under the field of Semiotics. People who are unable to hear and somehow become deaf are increasing all around the globe but specifically Pakistan is facing an adverse situation regarding this alarming issue. In Pakistan, there is a lack of scale availability to process the assessment in case of hearing damage. Therefore, phase I was planned for the translation of the familial social support scale in Pakistan sign language. This phase was divided into numerous steps and stages. First, focusing on the translation of these scales. This involved the careful translation of the original text into sign language to ensure that the meaning was accurately conveyed into sign language. Step II was designed to create a website for future use. Phase II of the present research focused on the psychometric properties of the study instruments using AMOS-21. Confirmation of factor structure aimed to establish the construct validity of study Familial social support scale. Phase II concluded that the Familial social support scale is reliable and valid and is ready to be used in future research.

KEYWORDS: Familial Social Support, Hearing-Impaired, Pakistan Sign language

INTRODUCTION

Hearing is the state of a person to catch sounds and decode them. An individual who gets affected by hearing impairment usually suffers from discomfort in actualizing and decoding sounds with clarity due to some auditory issues. This stage leads to the state of deafness or hearing disability where instead of understanding and decoding sounds one switches to oral communication or other phonemes standardized for frequency and integrity (Punch & Hyde, 2011).

Social support is one of the most important defensive articles for hearing-impaired adolescents to have the opportunity to look at and overcome all the issues and challenges. Familial

social support plays a vital role in adjusting health issues as it can be considered as the sixth variable in dealing with behavioral health (Celikel & Erkorkmaz, 2008). Spontaneously, the familial social support is significant and makes the affected adult ready to believe that he is being pampered, loved, cared for, valued, and accounted nicely as a member of social networking. People with high responsible sense and valid factors of social support landmarks have been discovered and accepted to be worked with adaption to upsetting life events and defeating mental illness, in such case they experience less anxiety in dealing with problems and get rid of social stress, depression, physical suffering, and some other prominent symptoms (Salavati et al., 2014).
Non-presence of appropriate social support badly influences the behavioral health of hearing-impaired individuals and the intensity of hearing-impaired defensive mode in people and is highly preferred as far as the mental understanding of recurrence of pressure and manifestations lie within the overburden. The state of being sad is by and large unrevealed and crucial meditation, absence of illusion, unusual circumstances (Alto, Handley, Rogosch, Cicchetti, & Toth, 2018).In such a situation pessimistic behavior in the young generation is being highlighted to get discouraged themselves. The negative gateways of experienced circumstances become realistic and daily routines and circumstances that are somehow or somewhat responsible for substantial pressure, increase the ratio of anxiety and depression.

The family is considered a significant institution for learning social behavior, with family adults exchanging and reproducing emotions, ideas, working patterns, and life goals so family-built identity of the adult. Thus, a strong family even if it has or does not have a strong relationship does impact the individual mental health, social health appropriate physical fitness, and language projection. Because if one has a strong communication skill the growth of the affected child in the light of such circumstances, social interaction, and critical thinking established by the family plays an important role in building the personality of the child to go through future events. This is the reason that through such interaction and bonding children get engaged with family and related members and with their communicative world, evolving his or her critical thinking, scientific study, interactions, use of language, and many more. Considering that the family environment represents the space in which adulthood of a child has his/her initial experiences of life and correlations to family, in such way the institution of family has a vital role in boosting positivity and encouraging behavior in constructing the personality of the deaf as people with high potential and capacity to perform the events of social life (Leigh, Maxwell-McCaw, Bat-Chava, & Christiansen, 2009).

Methods

Objectives

The study is designed to achieve the following objectives:

- To translate the Familial Social Support Scale into sign language for Hearing-Hearing-impaired adolescents.
- To confirm the Factor Structure of the Familial Social Support Scale for the Hearing-Impaired Adolescent through Confirmatory Factor Analysis (CFA).

The present study was carried out in the following phases and stages

Phase I: Translation of the Scale into Sign Language

Sign language translation, and language validation of the Familial Social Support Scale into sign language. The study was divided into two phases, with the first phase focusing on the translation of this scale. This involved the careful translation of the original text into sign language to ensure that the meaning was accurately conveyed into sign language. Stage I was completed in four steps. Stage II was designed to create a website for future use.

Stage I: Translation Procedure Used for this Study

The translation of the Urdu version of the scales into PSL followed the same procedure as the one outlined by Evans (2008) for translation between written languages, with additional consideration given to issues arising from the modality (signed not written) and grammatical properties of a visual, gestural, spatial language.

Step I. Forward-translation. Five people bilinguals in written Urdu and PSL, from different professional backgrounds, each carried out a forward translation from Urdu into PSL (first draft). Each expert did a forward translation of the scales into PSL, which they filmed individually, their translations being stored on video.

Step II. Backward Translation. During the second stage. The group examined each of the five PSL versions created by the translators in the first stage. Together, they reviewed the differences between PSL versions, item by item. Discussions included clarifying the meaning of specific items in Urdu and using this as a reference point for the identification of the preferred PSL version. Contemporaneous notes will be taken on the discussion points.

Step III. Forward Translation Synthesis: This process resulted in the production of an agreed PSL version of the scale by one of the teams of forward translators (second draft).

Step IV. Blind Back Translation from PSL to Urdu. The second draft of the PSL version was translated back into Urdu by two individuals independent of the study. They had not seen the original written Urdu version or the first draft of the PSL version. In parallel, five PSL users were asked to complete the scales PSL, to check whether they had any difficulties with it. Any points raised, including requests for clarification, comments on the style of signing, or choice of specific signs, were noted.

Step V. Expert Panel Review. Feedback from the back translation team and the five people completing the PSL scale was considered in detail, comparing the back translators' comments and checking the original Urdu version, as well as looking back to the PSL version. Further modifications were made to some of the PSL items. These steps led to the production of the final version of the Scales in PSL, ready to be piloted.

Stage II: Creating a website for hearing-impaired children

After translating, the scale into sign language we used technology to create a website (www.hadiaghaffar.com) to allow special education institutions in Pakistan, which are working with us, to use it with our permission. This enabled hearing-impaired children to self-assess. Previously, data was collected from parents or teachers, which was not an accurate assessment.

Phase II: Confirm the Factor Structure of the Familial Social Support Scale.

In this phase, a confirmatory factor analysis was planned to confirm the Factor Structure of the Familial Social Support Scale for the Hearing-Impaired Adolescent Confirmatory Factor Analysis (CFA).

Sample

A sample comprising 100 hearing-impaired adolescents (males 65, 63.3%; females 35, 36.7%) was taken from different cities of Pakistan to carry out statistical analysis of study variables. The subject's age range was about 9 -20 years with an average age of 16.5 years. 32.73% of the participants have primary education, 59.52% have middle and 9.52 % have a high education level. Both family systems were part of urban areas of the country. Concerning family history, 72 participants reported cases in a family, on the other hand, 28 participants have no family history. Amongst the participants, 50.99 % were profoundly hearing impaired.

Table 1

Frequencies and Percentage of Sample of the Study (N=100).

Characteristics	***f***	***%***
Gender		
Male	64	64.00
Female	36	36.00
Age		
9-14	34	34.00
15-20	66	66.00
Education level		
Primary	32	32.00
Middle	59	59.00
High	9	9.00
Mother Qualification		
Primary	5	5.00
Middle	4	4.00
Matric	17	17.00
Intermediate	10	10.00
B.A	10	10.00
M.A	11	11.00
Illiterate	38	38.00
Father Qualification		
Primary	4	4.00
Middle	3	3.00
Matric	26	26.00
Intermediate	13	13.00
B.A	17	17.00
M.A	1	1.00
Illiterate	25	25.00
Degree of hearing loss		
Mild	2	2.00

Moderate	4	4.00
Severe	43	43.00
Profound	51	51.00
Family history		
Yes	75	75.00
No	25	25.00

Note. f= frequency of the characteristic

Inclusion exclusion criteria

The inclusion criteria for the study will include hearing-impaired children of both genders between the ages of 11 and 16 years, who are enrolled in special schools in Punjab, Pakistan, and whose parents or legal guardians have given informed consent for their participation in the study. Children who are unable to provide informed consent or who have parents or guardians who decline to provide consent will also be excluded from the study.

Procedure

The study obtained data from various institutions within the Special Education Department, and participants were contacted at their respective educational institutions. Written instructions were provided for all questionnaires to ensure clarity and consistency in the data collection process. Only hearing-impaired adolescents who voluntarily agreed to participate through written informed consent were included in the study, and they were assured of the confidentiality of their personal information. To ensure privacy and reduce potential bias, all questionnaires were administered individually, and participant names were kept confidential. This ethical approach helped to ensure that the study was conducted respectfully and responsibly.

Results*:* The following are the findings of CFA for scale

Confirmatory factor analysis of familial social support scale. The factor structure of the familial social support scale was tested using confirmatory analysis in AMOS-20.

Table 2

Fit Indices of CFA for Familial Social Support Scale among Hearing Impaired Adolescents (N=100)

Scale	χ^2	*Df*	CMIN/df	*IFI*	*NFI*	*CFI*	*RMSEA*
FSSS	273.678	54	5.07	.91	.90	.91	.05

Note. FSSS= Familial Social Support Scale, χ^2 = chi-squared, df= degree of freedom ≤ 2, RMSEA = Root Mean Square Error of Approximation ≤ .06, CFI = Comparative Fit Index ≥ .90, NFI= Normed Fit Index ≥.90, IFI = Incremental Fit Index ≥ .90 (Hayduk, 2015; Kline, 2013).

The table showed a good fit for CMIN/df=5.07, IFI=.91, NFI=.90, CFI=.91, and RMSEA=.05 are close to indicating a good fit. Thus, CFA has confirmed the factor structure. These results indicate that the Familial Social Support Scale is statistically valid.

Table 3

Standardized Solutions by Confirmatory Factor Analysis of Familial Social Support Scale (N=100)

FSSS	Item no.	Loadings
	1	.70
	2	.55
	3	.45

4	.53
5	.64
6	.59
7	.45
8	.49
9	.83
10	.54
11	.75
12	.69
13	.45
14	.75
15	.52
16	.59
17	.43
18	.66
19	.85
20	.81
21	.80
22	.45

The table shows the CFA of the Familial social support scale. Factor Loadings were examined and all the factor loadings were found above the criteria (>.35). So, it is accepted without any further modification. The loadings ranged from .36 to .85. Consequently, the Familial Social Support scale represented by 22 items showed a good fit to the data hence confirming its construct validity.

DISCUSSION

This is a bit tricky to deal with hearing-impaired adolescents to use language other than sign language. This article used a rigorous translation procedure to generate a self-rated questionnaire of the Familial Social Support for hearing-impaired adolescents. The PSL-FSSS can be used for several purposes that would benefit the underserved population of hearing-impaired adolescents. Previous research has recommended that language barriers and false expectancy may result in families not recognizing the signs and symptoms of behavioral health issues of hearing-impaired adolescents. The PSL-FSSS hearing impaired can be provided the ability to talk freely about behavioral health problems that might otherwise go unnoticed or undiagnosed. Psychologists may be more accurate in their assessment of their hearing-impaired adolescent's behavioral health. The question therefore arises, whether the translation challenges we have highlighted can be generated to other signed languages and other translation contextual backgrounds.

The multi-dimensional or multi-tasking nature of signed languages in comparison and contrast with written languages are the same regardless of the particular languages involved. (Samady, Sadler, Nakaji, & Malcarne, 2008) described this as the difference between working in three dimensions rather than two dimensions and used to describe translations into PSL as: “composed of dynamic three-dimensional pictures created with the movements of hands, body language, and facial expressions”. However, (Stokoe & Kuschel, 1979) refer PSL consisting of

four factors: -dimensions: “Speech is on consisting on single dimension...; writing has various dimensions; models have more than two or multiple dimensions but only signed languages have at their disposal four dimensions – the three spatial dimensions accessible or reachable to a signer’s body, as well as the dimension of time” (Stokoe & Kuschel, 1979), as cited describes this dimension in terms of “Gradient phenomena that are available to signers – rate and intensity and expansiveness of movement.” In common with broad translation literature as well as that specific to sign languages (Perfect et al., 2010) we knew that cultural equivalence of key concepts was not so easy to deal with rather it was critical.

The linguistic accuracy of a translated item was less important than the capacity of the translated item to be meaningful within the cultural context of those who would be completing the outcome measures. Like we (Perfect et al., 2010) found that some concepts expressed by a single word could not be expressed by a single sign.

Although the PSL version of the Familial social support scale has now undergone the process of being produced it does not necessarily mean that it is suitable or well and good for all signing Deaf communities in Pakistan. Issues that need to be considered include the regional variations of PSL across Deaf communities and the range of PSL competencies that exist within those communities. The trends that were found in this article are interesting and somehow surprising and it is important to make someone acknowledge the limitations. Time and money were limited. The PSL-FSSS psychometric properties were not that easy to be evaluated. Without evaluation of validity or authenticity, factor analysis, inter-rater reliability, and internal consistency, there is no way of knowing how the questionnaire's psychometric properties compare to the other published versions of the FSSS. The PSL-FSSS can be used for several purposes that would benefit the underserved population of hearing-impaired individuals. Furthermore, the psychometric characteristics have to be examined with the prospects of the PSL-FSSS to enable meaningful interpretations, assumptions and so much pertinent to the collection of data with the questionnaire.

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