

DEVELOPMENT OF PSYCHO-SOCIAL PROBLEMS SCALE FOR HEARING ADULTS OF DEAF PARENTS

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[\(Presented at the 5th International. Multidisciplinary Conference, 29-31 Oct., at ICBS, Lahore\)](#)

ABSTRACT: *Ninety percent of children born and grow up in deaf culture, are hearing children, and known as Children of Deaf Adults (CODA,s) [1]. Deafness in primary caregivers such as in parents, influence on the psycho-social development of their children. The focal objectives of the current examine were to build up a homegrown self-report determine of psychological problems as well as community problems for CODAs. In segment one, a group of 84(objects) items was generated and 34 (objects) items were chosen for factor scrutiny. The factorial validity of the tool was resolute on a sample of 120 individuals belonging to different cities of Pakistan. The 34 items were passed through principal component analysis by means of a Varimax rotation process. The Eigenvalues for these factors were 12.4, 5.0 in that order. Subsequent to the criteria of Kline (1986), only those items were elected for additional assessment which had $>.30$ factor loading. An assessment of the contents of these items yielded two factors which were labeled as psychological and social problems sub-scales. The psycho-social problems scale (31 items) was found to be internally constant and dependable as shown by the $(\alpha = .94)$, and convergent validity of the tool was determined by estimating association with DAS scores with significant constructive correlation $(r = .75, p < .01)$. The distinguished validity of the scale was resolute by ruling correlation between scores, on the scale of psycho-social problem for CODA,s and BBC-SWB scale $(r = -.42, p < .01)$. The conclusion of the current examine has exposed a theoretically interpretable and multidimensional construction of psycho-social problems of CODA,s.*

Keywords: psycho- social problems, hearing children of deaf adults, convergent,

INTRODUCTION

Ninety percent of children born, and grow up in deaf culture, are hearing children, and known as *Children of Deaf Adults (CODA,s)* [1]. CODA,s have a unique experience of wavering between two cultures. They use possibly sign language as well as spoken language [2]. CODA's are hearing, several studies suggest their reflection toward hearing world than the deaf culture[3,4].

Many theories suggest a relationship between caregiver and infants: an appropriate environment and communication is necessary for psychological and social development of infants[5,6]. Deafness in primary caregivers such as in parents, influence on the psycho-social development of their children[4]. Psycho-social problems are related to mental illness influenced by life experiences, as well as mal-adjusted cognitive and behavioral progression [7]. It is stated that hearing children of deaf required identity with parents or deaf community, and be short of identity escort the CODAs in the direction of psycho-social problems, such as self- concept disagreement and unsuccessful to accomplish an intellect of belonging in both the Deaf or Hearing world [8]. Deluigi [9] reported that CODAs as a assemblage, acknowledged themselves as near to the ground in reputation, physically unappealing, having poor management qualities, having involvedness in making acquaintances, established poor scholastic and cognitive abilities.

Moreover, Bene's [10] case study on CODA's showed that if the parent's be short of encouragement, physical secret code of friendliness and their irresponsibility which caused his way of thinking as in isolation. More than a few theorists have found that a child will have a stronger attachment and a more positive understanding of a parent if there are unambiguous communiqué between hearing child and deaf parent [11].

From a psychological developmental position, the responsibility of interpreter vanished the childhood of CODA, and make child more parentified. However, further studies showed that the role of interpreter of CODA, s

fostered sovereignty and self-sufficiency, and lead them individuality in the deaf community[1].

Some studies have found that having bicultural membership produced an undefined sense of belonging is not predictable by CODA,s and escort the hearing child to feel isolation, estranged, cultureless, perceiving themselves stranger[4]. CODA,s preferred to use spoken language and their deaf parents preferred sign language, the contradictory communication between parents and child can show the way to inadequate learning and verbal communication delays in the child and child perceive themselves as deepen the sense of feeling different, unaccompanied, impolite, lack of discretion understanding, scrutiny and antagonism from the hearing community [12].

Parentification or the loss of childhood, social or cognitive immaturity, internal conflict of pride and guilt developed in CODA,s through being given the role of interpreter [1]. There is a kind of suspicious split that take place, and create difficulty for the child in understanding about good and bad [4].

CODA,s are bilingual and bicultural; they use American Sign Language (ASL), as well as a spoken language for communication [2]. Bicultural environment creates frustration, misunderstanding, as deaf parents give value to use sign language and their hearing children give importance to use spoken language [13].

As ninety percent CODA,s belong to deaf culture, quantitative as well as qualitative exploration about them is relatively insufficient. In Pakistan no confined literature have establish relating to CODA,s. Even the hearing children are not familiar with the term CODA,s. The existing literature that does take in hand the interpersonal issues with parents, only qualitative eportion exists in high range and measures the experiences of hearing children with deaf parents. In Pakistan a lot of examinations have been studied on the communiqué pattern of hearing impaired citizens, but how this communication pattern belonging to their hearing children is unnoticed. Existing literature printed about

CODA,s contains a dependable theme extracted by case studies [10,11,13] and interviews [3] of hearing children of deaf group of people. Individual case information stands for only that CODA,s are mainly affected by their deaf parents [3]. The pragmatic study on CODA,s was carried out by Marshall [14] for his doctoral exposition. The family dimensions of hearing children were measured by Vesterager[15] through the qualitative strategies. Marshall [14] measured a comparative index of CODA,s and non-CODA,s by means of the Tennessee Self-Concept Scale (TSCS). Blaskey's [16] studied showed that CODA,s are more dutiful from the very early age to their parents are more depended on them for collective hold up than the non-CODA,s. Deluigi also conducted a quantitative study on CODA,s with an age ranging 7-18 years to measure academic and school standing, attributes and physical manifestation, nervousness, reputation, contentment and approval [9]. Chan and Lui [17] conducted an experiential study to measure the self-concept of Chinese CODA,s. The tool used for measuring the self – concept consists of specific statements selected from the Cooper smith Self-esteem Inventory, Self-Description Questionnaire, and the Kang Questionnaire. These scales were made in clinical setting only, were reliable tools, but was not appropriate for the community. Secondly, these instruments could not provide the cultural variations found with reference to the deaf community.

Literature shows that the issues of CODA,s are measured by using non-specific tools of the deaf community. After inquiring from the top listed special education centers and from various psychology departments, it is understandable, there are neither qualitative nor quantitative studies on problems of CODA,s in Pakistan nor has any scale developed. The term CODA,s introduced for hearing children of deaf adults is also unknown for Pakistani deaf interpreters and researchers. It is particularly necessary to develop a tool that measures the problems of CODA,s in Pakistan. The current study aimed to develop scales that measures psychosocial problems of CODA,s of family and to establish their psychometric properties in Pakistani context. However, most of the studies conducted in foreign are focused on interviews and case studies. This scale will provide a ground for quantitative measures for better identification of this phenomenon in the Pakistani deaf community. It has only been in recent times that CODA,s have been documented as a divergent group with their own set of individuality and issues. The present study is aimed to provide assistance to the CODA,s to enlighten them about the unique challenges they are prone to as they endeavor to build up self-concept distinctiveness and position in bicultural set up. So it necessitates to develop an indigenous tool for consideration of CODA,s psycho-social issues that emerges as a consequence of bicultural and bilingual communication approach. The tool will attempt to incarcerate extensiveness of psycho-social problems facing by Pakistani CODA,s in diverse life areas. The aim of current research is to walk around the construct of psycho-social problems and to build up an indigenous instrument.

Objectives

- ❖ To develop a locally appropriate quantitative instrument (questionnaire) to assess the major psycho-social problems in CODA,s
- ❖ To explore the psycho-social characteristics for the purpose of assisting therapists, Parents, educators, administrators, and communities, who are working with psychological, behavioral, social, and cultural problems of CODA,s
- ❖ To augment the management of hearing adult clients in the psychotherapeutic surroundings instead of taking a thorough case history

METHOD

The present research comprised three phases. In Phase I, six interviews were conducted to generate items for psychosocial problems in hearing children of deaf adults scale. Initial versions of scales were constructed by writing items from the main themes extracted from interviews and literature review. In Phase II, face validation of the scale was carried out by subject matter experts. In Phase III, psychometric properties of these scales will be established by administering the newly developed scales on the deaf community sample in Lahore, and various districts of Khabar Pakhtoon Khawa Pakistan.

Phase I: Item Generation

Items were developed by following the various steps: Both the inductive as well as deductive approaches were used to generate items therefore, the detailed account of the relevant literature, consisting of both qualitative and quantitative measures on psycho-social problems of hearing children of deaf adults (CODA,s) were reviewed. An open ended questionnaire was developed for the purpose of unstructured interviews to be carried out. Pool of Items was resulting from two sources which are:

Literature review

The existing literature relevant to the psycho-social problems in hearing children of deaf adults was thoroughly done, hence no literature found on psycho-social problem of hearing children from Pakistan [9,10,17].

Instructured interview

On the basis of existing literature of psycho-social problems of CODA,s interviews were conducted to explore people's opinion and perception about psycho-social problems. Interviews consisted of a succession of open-ended questions, *deaf waleidain ky sath aap ky kia tajrbat hai* [What are your experiences with deaf parents...]. *Aap ko deaf community mai kon kon sy msail drpaish hai...?* [what are the issues that you face in deaf community...]. *Ird gird ky logo kaidrakaapprkesayasrandazhotahy...?* [How the perception of surrounding people influenced you]. Participants were allowed to provide detailed answers to each question. Participants were probed and encouraged to talk about problems that they were facing with deaf parents in the deaf community.

Sample

Purposive sampling was used for selecting the participants for interview conduction, the sample consisted of sixteen participants, eight were male (N=8) and eight were female (N=8) with (age range = 18- 45 years; $M = 24.6$). They

belonged to different socioeconomic status, professions, residential areas, and both genders. The inclusion criterion for the participants was the age of 18 years and above having both deaf parents. The participants were residing in Lahore, and various districts of Khyber paktoonkhawa.

Procedure

Participants of interview were informed in advance about the topic of discussion, its purpose, venue, date, and timing through informed consent. The interviews were initiated by the introduction of the researcher, research topic. The participants were encouraged to share their experiences openly and they were given assured for confidentiality. Unstructured interview was conducted with each individual, in order: to measure their experiences. Each dialogue was audio-taped and the recordings were deeply analyzed. Subjects were permissible to provide detailed answers to each question; they were probed and optimistic to talk about their experiences as hearing children of deaf community.

Face Validation by Subject Matter Experts

Sample procedure

The experts from field of psychology consists of one clinical psychologist and one Ph.D. scholar (having experiences with hearing children of deaf adults , and also attended several seminar and workshops on the psychosocial problems of CODA,s), three educated adults CODA,s and two experts were principal and vice principal of Govt deaf college Lahore(working as interpreter for deaf and having 25-30 year of experience with deaf community) were provided with the copy of psycho-social problems scale for CODA,s questionnaire.

Procedure

In categorize to keep hold of the most suitable items for psycho-social problems scale, the items obtained in the preceding segment, were checked for the occurrence, on a three point reaction format, ranging from 0 = no, at some extent = 1 and 2 = yes. The experts were asked to scrutinize content of items, and report the items association and item precision to psycho-social problems that they experience in their daily life. All the instructions were given in Urdu and the questionnaire itself was in Urdu as its being the national language of this country and easily understandable to the people. Necessary changes were made on basis of their views. The recurrently occurring problems (with the criteria of having acknowledged an approval/endorsement of 20% and higher than) were retained. From out of eighty four items, thirty seven overlapping items were removed from item list and thus forty seven items were reserved for further analysis. The content of the items was reviewed intimately by all experts. Each item was focused for: (a) trustworthiness to the pertinent construct, (b) simplicity. Beside of it directness and redundancy of items were also looked carefully by experts. Thirteen items were removed, out of forty seven on the basis of psychologists' estimation, for being not associated with the context. The 34 chosen items were checked for their phrasing and six items were rephrased. All those items were disqualified which were vague, recurring, and jargon before presenting them in the final form of scale for the study. Piloting was completed on a sample of 30 participants and alpha value .81 was obtained.

Phase II: The Construct Validity in the Path of Factor Analysis

Sample

The psycho-social problems scale was administered to a snowball sample of 120 participants (age range = 18-45 years; M = 24.28; SD = 4.92) who belonged to all walks of life. Majority of the participants were educated. Their education levels are post graduate (15%); graduate (25%); intermediate (29%); metric (23%); below metric (8%) respectively. The number of men (58%) and women (62%) were quite compatible to each other. They belonged to different socioeconomic status; the inclusion criterion for the participants, belonging to the deaf community with either single deaf parents or both deaf parents. The age of participants were 18 years and above. Participants were taken from Punjab, KPK, and Sindh.

Procedure

Psycho-social problems scale was administered in a single setting. The participants were instructed to select a response to each item which best described them. Informed consent was taken from the participants and they were assured of the confidentiality of their responses and informed that the data would only be used for research purpose. All data were collected anonymously; no names were asked. In order to assess the factorial validity, a principal component analysis was carried out on the responses of 120 participants. The psychometric properties of the scale were also determined.

RESULTS OF FACTOR ANALYSIS

In organizing the construct validity, initially factor analysis was run on 34 items of Psycho-social problems scale for CODA, s. Firstly principal component method was used. The purpose of this method was to get the most out of the interpretability of the factors. The stipulation of the allotment of participants' responses was evaluated in the course of Bartlett's test of sphericity [18]. Obtained KMO value was .82 demonstrating that illustration of sample was sufficient for the structure of factor recognition. Bartlett's test of sphericity was considerable $p < .001$. The number of significant factors was also firm by the Kaiser criterion, and the overall explained variance. The retention criterion of Eigen values greater than 1, showed over-extraction with four resulted factors. In view of the inclination of the data, two factor production command of varimax rotation was fixed. The standard for item assortment as per factor loading was .3; Two items did not load on any factor, so they were disqualified. One item (i.e., items no 11, having factor loadings less than .45 were eliminated and two items did not show values because of the restraint value of less than .3 Eigen values. All the left over 31 items had elevated factor loadings

Ultimate Structure of psycho-social problems scale for hearing children of deaf adults (CODA,s)

Finally, the tool with 31-item was established. It consists of a 5-point likert scale, for the scale 0 represents highly disagree and 4 represents highly agree, to indicate the degree of agreeableness to the statement. The higher score shows an individual is more prone towards problems. There are two subscales of psycho- social problem scale for CODA,s; (a) psychological problems, (b) social problems. The degree of homogeneity among the items was measured by using Cronbach Alpha Coefficient is high i.e., .94, tentatively

Factor Loadings of Items on Two Factors
(N = 120)

#	Item no	Key Contents Of Items	Psychological (14 Items)	Social (18 Items)
1	Item01	Satisfied	.976	.000
2	Item02	Safety	.596	.000
3	Item03	Grieve	.584	.000
4	Item04	Alonliness	.360	.000
5	Item05	Shame	.000	.944
6	Item06	Humiliate	.000	.969
7	Item07	Inferiority	.976	.000
8	Item08	Interpreter	.000	.573
9	Item09	Goodjob	.000	.699
10	Item10	Angry	-	-
11	Item11	Identity	.000	.558
12	Item12	Self decision	.000	.614
13	Item13	Griefparents	.516	.304
14	Item14	Decision	.000	.675
15	Item15	Responsible	.000	.633
16	Item16	Need	.000	.723
17	Item17	Economical	.000	.492
18	Item18	Negative	.699	.000
19	Item19	Property	.000	.343
20	Item20	Irritation	.617	.000
21	Item21	Aloneparent	.674	.000
22	Item22	Workplace	-	-
23	Item23	Govt	.000	.643
24	Item24	Wish	.969	.000
25	Item25	Govtnot	.000	.976
26	Item26	Fear	.544	.000
27	Item27	Engagement	.000	.620
28	Item28	Hopes	.974	.000
29	Item29	Grieve	.647	.000
30	Item30	Compell	.000	.695
31	Item31	Difficulty	.000	.556
32	Item32	Benefit	.000	.724
33	Item33	Sad	.969	.000
34	Item34	Incomplete	.000	.602
		Eigen values	12.4	5
		Variance	27	24.3
		Cumulative percentage	27	51

Note. The items having factor loadings of .45 and greater are given in boldface.

expected for the paradigm of psycho-social problems scale for hearing children of deaf adults . The inner uniformity of the two subscales was carried out by computing Cronbach Alpha for each subscale. The alpha values for subscales; i-e., .90 for psychological .87 for social subscale. Both the factors have highly significant inter factor correlation of .85.

Phase III. Psychometric Properties of psycho-social problems scale for CODA,s

Test Retest Reliability. Reliability is defined as the: overall uniformity of a quantify or a measure. A measure is supposed to have a high reliability if it comes with similar outcomes under constant conditions. Test retest reliability is concerned with the degree to which test scores are steady from the administration of one test to the subsequent. The process pass through the same instruments or method and the same testing surroundings i-e Measurements are gathered from a single rater.

Sample

A snowball sample of 30 participants (age range = 18-45 years; M = 25.35; SD =4.12) was taken to measure test retest reliability of psycho-social problems scale for CODA,s. Them majority of the participants were educated. The number of men (50%) and women (50%) were taken. They belonged to different socioeconomic status. The only participants

having age of 18 years and above, and belong the deaf community, either a single deaf parent or both deaf parents and resident of Lahore, Punjab, Pakistan were meeting the inclusion criteria of the study.

Procedure

Participants were found out by snowball sampling technique, from the deaf community of Pakistan. They were given scales to fill it out. Several instructions were also given to participants, regarding to the response of items given on the scale. The contact numbers and home addresses of participants were noted down for the purpose of reapplying of same scale on them. Their response was taken out and analysis by SPSS was run on their responses. After two weeks the same participants were approached for data collection on the previously applied scale. Participants were already informed about the purpose of re applying same scale on them. Data was collected and correlation analysis was run on their previous as well as on new responses. The correlation was positively significant ($r=.91, p=.000$), which shows the new responses was about same to the previous responses.

Convergent Validity

It is related to construct validation of items, in which scores on a novel test are correlated with scores on the other similar well-established test, measuring the same construct.It was assumed that DAS will be positively correlated with newly developed psycho-social problem scale for CODA,s.

Sample

Thirteen male and 12 females (N = 25) subjects (age range = 18-45 years; M = 25.35; SD=4.12) was in use of the present study. The subjects belonged to different socioeconomic status; with selection criteria of age of 18 years and above. Participants were selected from Punjab and KPK.

Instrument

The Depression – Anxiety – Stress Scale (DAS) by Lovibond, & Lovibond, (1995) [19] and psycho-social problems scale for CODAs were used to set the convergent validity. D-A-S is a four point Likert scale i-e., never (0), sometimes (1), very often (2), and always (3). It is highly efficient for measuring psychological problems and social problems that create stress for an individual.

Procedure

Particular instructions were given to the subjects while administering the two scales: such as to go in the course of each item carefully and to give their responses to tick that response type which best described the strength of their problems. The participation in the study was voluntary and questionnaires were completed anonymously. By using the SPSS correlation analysis the relation between the two measures was carried out. Both the scales were positively associated with each other i-e., ($r = .75, p=.000$). Hence convergent validity was established.

Discriminant Validity

It is related to construct validation of items, in which scores on a novel test are correlated with scores on the other contradictory well-established test. Friedenburg (1995) [20] suggested check of divergent/discriminant validity at some stage in validation process by finding correlation between score on new test with that of the test associated to behaviors contradictory to the behaviors implied by construct of the study[21]. Correlation is frequently negative/ zero. It was

hypothesized that DAS will be negatively correlated with newly developed psycho-social problem scale for CODA,s.

Sample

Fifteen female ten males ($N = 25$) participants (age range = 18-45 years; $M = 25.35$; $SD = 4.12$) Majority of the participants were Educated. The number of men (45%) and women (55%) was taken. They belonged to different socioeconomic status; the subjects in the age range of 18 years and above were selected for the present study. Participants were taken from, KPK and Sind , Pakistan.

Instrument

The contradictory validity of the psycho-social problems scale was acknowledged by assessing its relation with the public domain BBC- Subjective Well being (SWB) scale, consists of 24, self-report items scale by Pontin [22]. SWB is 5-point likert scale with responses of ; 'not at all' (1); at some extent (2); 'moderately' (3); 'very much' (4); and 'extremely' (5). All items except one were scored positive from one to five, with five reflecting greater well-being. SWB is most broadly used instrument to assess well- being of an individual, such as how happy an individual feels in his daily life and reflect three underlying dimensions; 'psychological well-being'; 'physical health and well-being.

Procedure

The subjects were voluntary selected and two scales were administered to them, i.e. psychosocial problems scale for CODA,s and BBC- well-being scale to check the discriminant validity.

Results

Results specify that there was significant negative correlation between psychosocial problems scale for CODAs and BBC-well-being scale ($r = -.42$, $p < .05$), suggesting that CODA,s having psycho-social problems have lower well- being [4]

Discussion

Several qualitative and quantitative studies have been conducted on the issues of CODA's in foreign countries. Literature shows that be short of of distinctiveness with parents or a cultural group lead the CODA's toward psycho-social problems: conflict of self-concept and be unsuccessful to accomplish a sense of belonging in either the Deaf or Hearing cultures[23, 24, 25, 26, 27, 28] but not a single issue of CODA's has taken interest in Pakistan. The majority of researches on CODA's based on the qualitative findings of prestonpaul [3], but there is need to re-understand the issues of CODA's, because, Preston Paul was also a CODA,s so there are chances of his personal observation in his books and in the researches. Being the member of deaf community CODA,s are needed to be understand their problems that are results as children of deaf parents. The main objective of the study is to establish a applicable and reliable questionnaire to measure the psycho-social problems of hearing children of deaf adults. The task of finding out hearing adults of deaf parents was very difficult, only co-operative snowball technique made it possible to approach the sample. The present study consists of three phases. For the purpose of initial interview process CODA,s were approached by snowball process, for this purpose most of the deaf school and colleges of Lahore and KPK were visited, finally a sample of six educated adult CODA,s was selected from Lahore for an interview, it was transcribed and items for the questionnaire were generated. The generalizability of the study was fairly enough as diverse samples with accountable

areas with total 120 participants responses were passed in the course of the process of factor analysis. The logic behind to use Varimax rotation is, it is an easy technique to rotate meticulousness and transparency of each factor. The two factors appeared through factor analysis and were named of psychological problems, and social problems of CODA,s. The psychological and social problems such as having impenetrability in building peer relations, and established poor scholastic and; feelings of isolation, parentified due to a loss of childhood, inconsistent communication between parents and child,social or cognitive immaturity, internal conflict of pride and guilt are defined in the work of [2].The Validation studies were carried out by using scales with similar and opposite context. Convergent validity was established by using depression, anxiety and stress scale, it was found that it correlated significantly with psycho-social problems scale for CODAs. Discriminant validity was confirmed by obtaining the negative correlation between psycho-social problems scale for CODAs and BBC-subjective well- being scale. It shows the inverse relationship with present scale. According to Zarem [4] the poor communication pattern between the CODAs and their parents leads them toward poor subjective well- being and poor cognition.[4] As the psychometric properties of scale are on great strengthen, it can be used broadly for the deaf community. It enhances the management of hearing adult as clients in the psychotherapeutic surroundings as an alternative of taking a thorough case history. The psycho-social characteristics were needed to be drawn out, as this study will serve to vigilant therapists to the probable occurrence of issues in hearing clients grown up by deaf care givers and for the rationale of supporting therapists, Parents, educators, administrators, and communities, who are working with psychological, behavioral, social, and cultural problems of CODA,s.

Limitations

It is suggested to run a confirmatory factor analysis on psycho-social problems scales for CODA,s. Psycho-social problems scales for CODA,s is intended for use with adults. The most important constraint of the present study: that the majority of the sample was drained only from the sophisticated population having upper and middle socio-economic status.

Implications

This scale can be used as an assistant to identify psychological and social issues in indigenous sample. It's a new area for research in Pakistan; it will enable the psychologist, social worker to understand the problems of hearing children in the deaf community. It can be use in every setting such as in educational, clinical, at work place, and daily walks of life.

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