Hindi Translation and cross-cultural validation of Child version of Loneliness and Dissatisfaction, Parent Child relationship and Conflict Behavior Questionnaires

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Abstract

Background: Hindi translation and cross language concordance and validation of child version of Loneliness and Dissatisfaction Questionnaire (LSDQ-C), Parent Child Relationship (PCRQ-C) and Conflict Behavior Questionnaire (CBQ-C) would expedite generating data from India.

Objective: To translate the parallel forms (parent and child versions) of English version of the LSDQ-C, PCRQ-C and CBQ-C and into Hindi and evaluate its psychometric properties.

Methods: Hindi translation and cross language adaptation of LSDQ-C, PCRQ-C and CBQ-C was done following WHO guidelines. Children aged 10- 18 years of age, studying in either government or private schools of Chandigarh, whose parents given assent for their children were enrolled through snowball convenient random sampling technique. Psychometric properties were

assessed by using intraclass correlation (ICC), chronbach's alpha, test retest reliability, paired t test, and split half reliability.

Results: Item wise test retest reliability of Hindi version of all the scales was assessed and on most of the items, ICC value was above 0.80, indicting good to excellent reliability. ICC value was in acceptable range for few items for child version of the scales (0.70). Split half reliability of was above 0.80. Above findings suggests good to excellent agreement between English and Hindi version of all the scales.

Conclusion: The internal consistency, split-half reliability, and test-retest reliability are good to excellent. Thus, the Hindi version of parallel forms (parent and child versions) LSDQ, PCR and CBQ as translated in this study is a valid instrument.

Keywords: Hindi, Cross-cultural concordance, parent child relationship, loneliness, conflict behavior

Introduction

Loneliness has multi-faceted negative impact on daily functioning of children. Child loneliness has been relatively neglected field compared to other foci despite the fact that Loneliness in children is common these days. Approximately 1/5 of 8-year-old kids reported loneliness.[1] Loneliness among children can have long-term negative impact on wellbeing of children and also can disrupt their cognitive and social development[2], family relation.[3,4] Parent child relationship has a great impact on child's social and emotional development. Exalted conflict between parent and child is also found to be associated with loneliness. Conflicts between child and parents may have significant impact on child's interpersonal, social emotional adjustment and may lead to manifestation of resentment and discomfort. [5,6]

Nationwide lockdown during COVID 19 pandemic brought social life of everyone at standstill. Children are forced to remain at home with online teaching and negligible interaction with peers.

Parent child relationship and conflicts are also impacted during lockdown phase. Thus we planned to explore whether loneliness can predict parent child relationship and conflicts behavior and also to explore association between these measures during pandemic lockdown in India.

There are various scales to measure these three aspects that is loneliness, parent child relationship and conflict behavior. The commonly used are Loneliness and Dissatisfaction Questionnaire (LSDQ), Parent Child Relationship Questionnaire (PCRQ) and Conflict Behaviour Questionnaire SF (CBQ) and mostly studied in literature. These questionnaires exhibit strong qualities that indicate their application: construct and concept validity, ease of use, linguistic adaptation and international recognition. [7,8,9,10,11,12]

LSDQ has been widely used in various studies and its psychometric properties have been reported from good to excellent. Internal Consistency of original version ranged from 0.87 to 0.90[2], Greek version was 0.85 for full scale[13] , 0.75[14], in African and Hispanic American 0.79 to 0.85[15] and 0.89[16]. Satisfactory internal consistency have been reported by Gerdes, Hoza, and Pelham (2003)[8] for parent child relationship Questionnaire(0.63 to 0.88), 0.83 to 0.84 by Furman and Giberson (1995)[17], among African American internal consistency was reported from acceptable to excellent range 0.68 to 0.92[18], 0.76 to 0.84 by Xu et al., 2007[19] and for chinese version internal consistency was reported 0.68 to 88[20]. Prinz et al., (1979)[21] reported adequate internal consistency of CBQ English version (0.88), for Urdu version it was ranged from 0.73 to 0.89.[22]

Hindi is the fourth most regularly communicated language internationally, spoken by in excess of 260 million individuals everywhere in the world.[23] Hindi is the national language of India, the nation with the second biggest populace on the planet. At the point when oneself controlled

scales are not in the local language and it might influence the fundamental build of the estimation?

During literature search to the best of our knowledge we did not find the Hindi vesrion of these instruments to be used for Hindi speaking Indian population and non-availability of these scales in local language is a major limitation. Thus Hindi translation and cross language concordance and validation of LSDQ-C, PCRQ-C and CBQ-C is initial part of our main study. Cross language concordance and validating these scales in Hindi would expedite generating data from India. The findings would be comparable worldwide with other findings on the same scales. Thus present study was planned with the following aim

Aim of the study is to translate the English version of the LSDQ-C, PCRQ-C and CBQ-C into Hindi and explore its psychometric properties.

Methodology

Study design- Observational study

Settings- Study is conducted at Govt and Pvt Schools of Chandigarh UT India

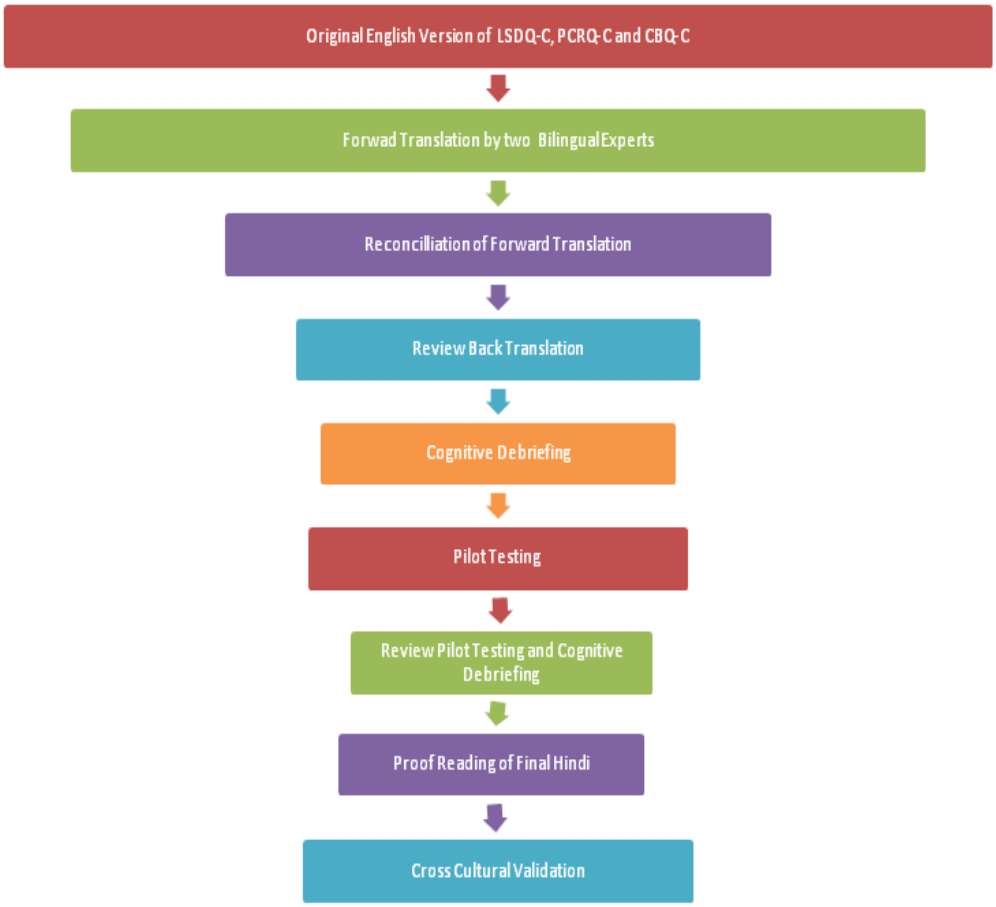
Participants- Children aged 10- 18 years of age, studying in either government or private schools of Chandigarh, parents gave assent for them were recruited in the present study. Those children whose parents did not give assent and with any organic disorder were excluded.

Procedure

After obtaining Institute ethics committee approval, permission was sought from the competent authorities (Director Education, Chandigarh Administration) to conduct this online survey. Children from various government and private schools of Chandigarh, were enrolled through snowball convenient sampling technique. School principal had been contacted through e-mail,

Whats app and telephonically to explain the objectives of the study. The study population was informed in detail about the research objectives and methodology. Assent was taken prior to enrollment of the participants from their parents. Google forms were sent through email and Whats app to the principals. These Google forms were sent to 300 students Principals of respective schools for baseline assessment.

Figure I: Flow Chart of Cross Cultural



Adaptation

Cross Cultural Adaptation

Hindi translation and cross cultural adaptation for Child versions of all three scales used in the study LSDQ-C[2] (Asher, Hymel&renshaw, 1984), PCRQ-C[17](Furman& Giderson,1995) and CBQ-C[11](Robin & Foster,1984) was done by following two steps: forward and backward translation and cognitive debriefing by pilot testing.

Forward and Backward Translation

Original English versions of all the above mentioned scales were translated into Hindi[24] by two experts (psychologists) who were native residents of India and were fluent in writing and speaking English and Hindi. Hindi translation from both the experts was reconciled into one version to make the first draft of Hindi version of all the scales. First Hindi draft was then retranslated into English independently by two different bilingual experts separately. These experts had no prior knowledge about these scales and they were not even shown the original English versions of the scales. Senior psychologist, fluent in both languages reviewed the back translation with another bilingual expert for any discrepancies in terminology. These issues were resolved to get the refined draft of all the scales. Further, refined versions were discussed and evaluated by all the Hindi and bilingual experts and a final version was agreed upon.

Cognitive Debriefing

After the completion of translation process, translated Hindi version of all the scales were administered to 12 children of either gender for comprehensibility. In pilot study, children completed LSDQ-C, PCRQ-C, & CBQ-C, they also describe their understanding of scale items in their verbatim and suggested alternative words that were difficult to understand for them. Participants responses were reviewed by experts and suggestions from participants were also

incorporated. After these modifications final Hindi version was locked down for validation phase.

Phase II: Cross-Cultural Validation

All the participants completed these scales (LSDQ-C, PCR-C and CBQ-C) along with their demographic information. Face and content validity was assessed by panel of six experts. Internal consistency was assessed by ICC, test-retest and split half reliability. To assess the test-retest reliability Google forms were sent to all the participants who participated at baseline assessment after 5-7 days gap from baseline observation, 102 responded for second observation. One week gap was given to minimize the recall effect and to avoid impact of any life event on the participant's response on the questionnaires.

Instruments

Loneliness & Social Dissatisfaction Questionnaire[2] (LSDQ: Asher, Hymel & Renshaw, 1984) [2]: It comprises of 24 items rated on 5 point Likert scale (definitely yes to definitely no) and has child and parent versions. Range of total score is 16-80. Item number 6,9,12,17,20,21 are scored reversely and higher scores are indicative of higher feeling of loneliness, social inadequacy and poor perceived peer relationship. The **Cronbach's** alpha for child version was .89 and for parent version it was .96. The scale also has excellent internal consistency [16]

Parent Child Relationship Questionnaire (PCRQ: Furman& Giderson, 1995)[17]: Parallel forms of this measures five factors: warmth, personal relationship, disciplinary warmth, power assertion, and possessiveness. As Personal relationship domain has 10 items and gives confiscated view of the scale and has strong association with other domains of the scale,[17] thus we planned to use only this dimension. Items are rated on 5 point Likert scale (hardly at all to extremely much) with score range 10-50. Higher the scores more the intimate relationship and

togetherness among parent and child. The Cronbach's alpha has been .76 for parent version and .91 for child version. The scale also has good to excellent internal consistency.[25]

Conflict Behaviour Questionnaire SF (CBQ: Robin & Foster,1984)[21]: It has 20 items true/false rating and measures the perceived conflict between child and parent interaction at home with two parallel forms for child and parent. High scores indicate negative communication among child and parent. The scale has good internal consistency, for children .94 and for parents .95. [11] Thus, CBQ 20 is a reliable and valid tool.

Sample size

According to Hinkin TR[26], the sample size required to perform exploratory factor analysis should be sample size to number of item ratio no lower than 4:1. As the LSDQ has 24 items, PCR has 10 and CBQ has 20 items a minimum of 96 cases (24 X4=96) was required per the recommendation. To ensure optimum participation Google forms were sent to 300 Children and their parents were sent the Google forms through school authorities after obtaining permission from education department Chandigarh. Out of 300 families approached, 200 responded for baseline assessment, 100 did not responded/given consent and for test retest reliability 102 responded out of 200 families approached through what's app or telephonically.

Statistical Analysis

Obtained data was analyzed using IBM SPSS version 17.0 Statistics for Windows, (IBM Corp., Armonk, NY). Descriptive statistics was used (frequency, percentage, mean and standard deviation) for demographic variables of the children and parents. Skewedness of the data was also checked and parametric tests were used for further analysis.

Cross language concordance and internal consistency was assesses by computing Intra class correlation (ICC) and Cronbach's α for both English and Hindi versions and for baseline and retest observation with reference to Cronbach's α values ≥ 0.9, excellent; ≥ 0.8, good; ≥ 0.7, acceptable; ≥ 0.6, questionable; ≥ 0.5, poor; and ≤ 0.5, unacceptable.[27] For ICC, two way random effect model was used with 95% as class interval and ICC of ≥ 0.70 was considered acceptable.[28] Mean of both the observations were computed by using paired t-test. The Bland Altman plot for LSDQ-C, PCR-C, CBQ-C, was used compare measurement between baseline and retest assessment.

Ethical Information: This manuscript is the part of the study approved by the institutional ethics committee with letter no: INT/IEC/2020/SPL-980. Parents were requested to provide written informed consent and were carried out by the Code of Ethics of the World Medical Association (Declaration of Helsinki) for human experiments.

Results

Standard Hindi was used for translation of LSDQ-C, PCRQ-C and CBQ-C for better understanding. Results of pilot study revealed no discrepancies in terminology used in Hindi versions of all the scales and none of the participants reported any problem in comprehending the items of any scale. Out of 300 eligible participants 200 gave consent for their children to participate in the study and completed baseline assessment. The mean age of children was 13.9 ± 1.57 years at baseline observation. Among participants 42.5 % were boys and 57.5% were girls, slightly more than half (55%) were high school students, 42.5% middle and 5.5% had attained higher secondary level education. Table I

Cross Language Concordance

Concordance between items and total scores of English and Hindi version of all study measures (LSDQ-C, PCR-C, CBQ-C) was examined by using Chronbach's alpha, ICC and means were compared by using paired t test. Significant difference between means English and Hindi version was observed only on two items (LSDQ-C item 19=p value .014;CBQ-C: item 9 = p value .019) rest all had non-significant difference across all the measures. On LSDQ-C (ICC = 0.87; Chronbach's alpha = 0.93), PCR-C was (ICC= 0.93; Chronbach's alpha = 0.97), and on CBQ-C (ICC= 0.80; Chronbach's alpha = 0.89). Item wise values are presented in Table I – Table III.

Face and Content Validity

Face validity is subjective assessment and opinion and feedback is sought by experts and representative of targeted population. Reliability, clarity of language used and comprehensive compatibility of items is assessed by experts. As per Terwee et al., 2011, there are no standards for measurement of face validity.[29] The face and content validity of the English and Hindi versions of LSDQ-C, PCRQ-C and CBQ-C was judged by 6 professionals and 12 children of either gender from targeted population. None of the children had difficulty in understanding any of the items. Four out of 6 experts communicated face validity of these scales and 2 experts suggested few modifications by reframing few Items. Modifications were done as per expert's advice.

Internal Consistency

Internal consistency of the clinical measures was assessed for child version of LSDQ-C, PCRQ-C, and CBQ-C in terms of Cronbach's alpha. Cronbach's alpha was estimated for internal consistency and alpha value greater than 0.70 was considered sufficient. Obtained chronbach's alpha values for full scale were LSDQ-C (0.96), PCRQ-C (0.94), and for CBQ-P (0.91).

Test–Retest Reliability

For test-retest reliability scales were administered on minimum 50% of population after one week gap and inter class correlation was computed for both observations. Despite giving consent for both observations only 102 children responded on second observation (retesting) Test–retest reliability was computed in 102 children. For test-retest reliability baseline scores were compared with scores on same measure after the gap of one week by using paired t test and on LSDQ-C (ICC = 0.89), PCR-C (ICC= 0.92), and for CBQ-C it was (ICC= 0.84). Item wise description is presented in Table I – Table III.

Split Half Reliability

Split half reliability of LSDQ-C, PCRQ-C and CBQ-C was assessed by using Spearman-Brown and Guttman's split half coefficients and obtained coefficient for all three scales was ≥ 0.80. Split half reliability for LSDQ-C [α value: 1^{st} Half = 0.84(item 1-12); 2^{nd} half = 0.79 (item 13-24)], PCRQ-C [α value: 1^{st} Half = 0.84(item 1-5); 2^{nd} half = 0.71 (item 6-10)] and CBQ-C [α value: 1^{st} Half = 0.74(item 1-10); 2^{nd} half = 0.77 (item 11-20)].

Bland-Altman Plot

The Bland Altman plot for LSDQ-C, PCR-C and CBQ-C shown in Figure II. A scatter plot was created for total baseline and total retest scores for all above mentioned scales and has been plotted against difference of two set of scores. Continuous green line is of mean difference, dotted red lines represent 95% limits of agreement with ± 1.96 standard deviations. On X and Y axes scores are represented in percentages. Figure III represent the plot showing linear relation between baseline and retest total scores on all the measures.

Discussion:

The present study attempted to translate, adapt and examine the psychometric properties of the Loneliness and Dissatisfaction Scale (LSDQ-C), Parent Child relationship Questionnaire (PCRQ-C), and Conflict Behavior Questionnaire (CBQ-C) into a Hindi translation and cross language concordance was done by following well established methodology by WHO[24]. A Hindi version of these scales would give native people of India a chance to comprehend and respond in a better way and will make research more effective and comparable with research findings on theses scales across the globe. Psychometric properties of adapted versions of all three scales (LSDQ-C,PCRQ-C and CBQ-C) confirms that content of items of these scales have not been changed while translation process and the scales were easy to understand for the targeted population.

Concordance between items and total scores of English and Hindi version of all study measures (LSDQ-C, PCRQ-C, CBQ-C) was examined by using ICC and chronbach's alpha. Intra class correlation and for English and Hindi version was above 0.87 for all the scales. Item wise test retest reliability of Hindi version of all the scales was assessed and on most of the items ICC value was above 0.80, indicting good to excellent reliability. ICC value was in acceptable range for few items for both child and parent version of the scales (0.70). Above findings suggests good to excellent agreement between English and Hindi version of all the scales.

As per Anderson criteria for evaluating psychometric properties of psychological tools Cronbach's alpha ≥ 0.80 express excellent reliability. Internal consistency in our study was assessed using Cronbach's alpha for all the scales. Cronbach's alpha for total scores was ≥ 0.83 and item wise ranges from 0.80 to 0.99. These findings are suggestive that Hindi version of all

the scales have high internal consistency. Similar findings have been reported in the literature LSDQ[30,31,32] PCRQ[16,33] and CBQ.[21]

Internal consistency in term of Chronbach's alpha for LSDQ was 0.96 for total and item wise ranged from 0.79 to 0.96.Our findings are in line with few previous studies. Galanaki, & Azizi.,(1999) reported α 0.85, Coplan, Closson & Arbeau.,(2007) found α 0.75 and in another study it was reported 0.79 to 0.85[16]. Chronbach's alpha value in our study for PCRQ ranged from 0.82 to 0.98 and for total score it was 0.94. Whereas in previous studies Gerdes, Hoza, and Pelham (2003)[8] reported 0.63 to 0.88, Furman and Giberson (1995)[17] 0.83 to 0.84. Xu et al., 2007, while translating and validating Chinese version of PCRQ found internal consistency ranged between 0,68 to 0.88. In present study for CBQ α value ranged from 0.72 to 0.97 and for full scale α 0.9. These findings are similar with findings of previous study, where Internal consistency of Urdu version was ranged between 0.73 to 0.89[22] and for English version it was reported 0.88.[21]

Overall, the findings of the study suggest that the Loneliness and Dissatisfaction Scale, Parent Child relationship Questionnaire, and Conflict Behavior Questionnaire provides adequate psychometric properties in terms of cross cultural language concordance, internal consistency and test retest reliability. Thus, we can conclude that findings of the present study suggests that Hindi translation of LSDQ-C, PCRQ-C and CBQ-C have good psychometric properties in terms of cross cultural language concordance, internal consistency and test retest reliability. The study laid out adequate evidence to facilitate the use of these scales in Hindi speaking population.

Conclusion

To conclude, the present study suggests that the Hindi version of LSDQ-C, PCRQ-C, CBQ-C and cross-language has equivalence with English version. The internal consistency, split-half reliability, and test-retest reliability are good to excellent. Thus, the Hindi version of LSDQ-C, PCRQ-C and CBQ-C as translated in this study is a valid instrument. It is hoped that the availability of these instruments will help the researchers in studying the association of these variables with religiosity.

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Conflict of interest

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