Psychometric Analysis of Afan Oromo Version of Brief Family Relationship Scale

Ejigu Olana^{1*} and Belay Tefera²

¹Institute of Education and Behavioral Sciences, Ambo University

Article History: Received: July 29, 2020; Accepted: December 2, 2020; Published online: June 4, 2021

Abstract: An instrument that developed in one context does not consistently conform to others' cultures. Family functioning needs to be assessed across different contexts and cultures by validating and adapting an instrument. The Brief Family Relationship Scale (BFRS) is one of the family functioning instruments aimed to measure family relationships across three dimensions. The objective of this study was to translate the English version of BFRS into Afan Oromo and validate the scale to Ethiopian context using a sample of 232 (male =122, female =110) adolescent students (aged 15-19 years) drawn from Ambo Secondary School, Oromia Regional State using simple random sampling technique. In this process, symmetrical method or centric process was employed to establish more accurate adaptation and culturally equivalent translated instrument. The adaptation process took six different stages including the forward and backward translations, synthesis I and II, pilot testing and full psychometric study to establish internal consistency indices and to check both convergent and criterion validity. The study revealed that three factors or scales (cohesion, conflict, and expressiveness) were generated through factor analysis and parallel analysis. All the generated factors had acceptable internal consistency. Accordingly, among three generated scale of BFRS, Family Cohesion (α =0.92) and Family Conflict (α =0.89) had high internal consistency, while Expressiveness (α=0.68) had a lower internal consistency than others. The Afan Oromo version of BFRS proves valid and reliable for the purpose at hand. Yet, it requires further culturally appropriate revision through involving other family members and using large samples.

Keywords: Brief family relationship scale; Family assessment devices; Reliability; Validation

Licensed under a Creative Commons. Attribution-NonCommercial 4.0 International License.

²College of Education and Behavioral Studies, Addis Ababa University

1. Introduction

Family is a crucial context in influencing individual and societal wellbeing. There are various instruments that measure family functioning in different aspects. Family Environmental Scale (FES) is a widely used and easy-to-administer self-report questionnaire (Moos and Moos, 1994) which measures many family characteristics such as family integrity, family dynamics, communication, closeness, and functions of each family member. The FES measures the social-environmental characteristics of all types of families (Moos and Moos, 1986). FES is also an effective instrument to differentiate between functional families and families with problems. Thus, the scale has the potential to be a valuable clinical research tool for assessing important aspects of family functioning.

The original FES comprises ten subscales in which each item had to identify an aspect of the family environment that could reflect the emphasis on interpersonal relationships (such as the degree of cohesion), personal growth (such as the degree of achievement or moral-religious emphasis), or the organization of the family (such as the degree of organization) (Moos and Moos, 1986). The ten FES subscales assess three domains of family functioning: relationships, patterns of growth, and its organizational feature.

Creating pleasant relationship among family members plays a key role in promoting positive outcomes for adolescents' mental health and wellbeing, and serves as a powerful mode of family intervention. Hence, among ten subscales of family environment scales cohesion, expressiveness and conflict measure the relationship dimensions. These subscales assess the degree to which family members provide help, support and commitment for one another; the extent to which family members are encouraged to act openly and express their feelings directly; and the extent to which aggression, anger, and conflict are expressed among family members. Likewise, achievement orientation, intellectual-cultural orientation, independence, active-recreational alignment, and moral-religious emphasis measure personal growth dimensions. These subscales assess the degree to which clear organization, structure in planning family activities and responsibilities are important and the extent to which set rules and procedures are used to run family life (Moos and Moos, 1986).

FES is a widely used instrument to differentiate between functional families and families with problems (Roosa and Beals, 1990; Vianna, Silva and Souza-Formigoni, 2007). The BFRS is 19 item with Likert scale adapted from the 27-item relationship dimension of the FES (Moos and Moos, 1994). The scale was adapted for Alaska Native youth with 284 adolescent students aged 12 to 18 years-old by Ting Fok, Allen and Henry (2014). The scale is used to measure Cohesion, Conflict and Expressiveness subscales (9 items each). These components are useful to measure an important family functioning such as support, expression of opinions, and conflict among family members. The BFRS is a vital family functioning instrument that can assess individual's perceptions of family functioning by measuring three features of family relationships. Evidences show that the BFRS may be suitable for use with other different cultural groups (Ting Fok *et al.*, 2014).

Table 1. Characteristics of Brief Family Relationship Scale (Moos and Moos, 1994)

Relationship dimension	S
Cohesion	The extent to which family members are committed to help and
	support each other.
Expressiveness	The extent to which family members are encouraged to express their
	feelings directly.
Conflict	The extent to which family members openly express their anger and
	conflict.

Various studies (e.g., Ma and Leung, 1990; Roosa and Beals, 1990; Sanford, Bingham, and Zucker, 1999) criticized the FES for low reliabilities when used with youth and people from non-Western cultural backgrounds. This study attempted to assess the structure of the BFRS, investigate the item

characteristics for Afan Oromo speaker adolescents, and assess and interpret the evidence for validity of the BFRS score. Healthy relationship with family is important during adolescent period in enhancing positive development and decreasing risky behaviours such as drinking and others (Guilamo-Ramos, Jaccard, Turrisi, and Johansson, 2005). Self-completed BFRS Scale, which measures the family relationship, is easier to administer than instruments that require training. The scale is also less expensive and time-consuming. BFRS helps researchers to understand adolescents' perceptions of their family functioning and would be beneficial to facilitate family counseling or educational programs (Ting Fok *et al.*, 2014).

Different assessment instruments have been required to assess family functioning because of the dissimilarities among family characteristics across cultures. Thus, having either adapted instrument or developing culturally sensitive instrument has several importance. Developing culturally sensitive instrument helps professionals to design intervention and broaden research knowledge. Particularly, instruments related to family functioning play a determinant role in knowing family dynamics in a specific culture. Hence, adapting BFRS to Afan Oromo fills the gap of lacking family functioning instruments in Ethiopian context. To this end, BFRS needs to be validated to measure family functioning across cultures. This study paves way as an important step in establishing culturally appropriate instrument in the area of family functioning that contributes to the formulation of family intervention and for further investigations in Ethiopian context. Thus, the aim of this study is to validate BFRS and its relationship scale for Ethiopian adolescents.

The validation study of BFRS was guided by family system theoretical framework. Family system theory asserts that individuals can be understood in the context of their families rather than in isolation. It helps us to understand family functioning focusing on the interaction between family members and the context (Watson, 2012). The focus of family system theory is to understand the pattern of interaction among family members. Understanding family interaction can help to understand how each family member feels, thinks, and behaves and this may help to reflect on how system operates (Anderson and Sabatelli, 1999). Family system theory denotes that family relationship is influenced by family structures such as rules, roles, and communication patterns. According to family system theory, each family member has a role to play and is expected to respond to each other in the relationship according to her/his role.

Generally, the aim of the present study was to translate the BFRS version from its original English language into Afan Oromo and to examine its psychometric properties. Thus, the study has the following objectives; (1) To translate/adapt the BFRS instrument into Afan Oromo, and (2) To examine the reliability and validity of the newly Afan Oromo translated BFRS.

2. Research Methods

2.1. Research Design

In this validation research, a cross-sectional design was used to collect, analyze, and interpret data. The rationale behind using this design is basically the researcher collected data from a designated population at one given time.

2.2. Population

The target population of this study was high school adolescents aged 15-19 found in Ambo high schools, Ethiopia. Ambo town, with a population of about 300,000 inhabitants, is located at 114 KM to the west of Addis Ababa, the capital city of Ethiopia. The people living in Ambo town are mostly followers of Orthodox Christianity, Protestant, Islam and Waqefatta. There are currently three high schools at Ambo town. In 2019, about 9865 (male=4815, female=5050) of students were attending their education in these high schools.

2.3. Sample and Sampling Technique

The translated and validated FES was administered to 232 (male=122, female=110) adolescent students in Ambo high school. Participants were selected from Ambo high school aged from 15-20 years. According to Hair, Black, Babin, and Anderson (2014), the minimum sample is to have at least five times as many observations as the number of variables to be analyzed, and the 10:1 ratio is the more acceptable sample size. Concerning the sample size for the validation study, Comfrey and Lee (1992) also reported that 50 should be considered as very poor, 100 as poor, 200 as fair, 300 as good, 500 as very good, and 1000 or more as excellent. In this validation study, the sample size meets the criteria because for 19 variables/items, 232 samples were taken. This indicates that sample size to the number of items is about 12:1 ratio or the sample size is twelve times the number of items.

To select 232 students, stratified sampling method was used by sex and grade levels. Because of some difficulties, especially shortage of time and cost, a multi stage sampling technique was used. Thus, firstly, one high school was randomly selected among the three governmental high schools. Secondly, from the identified school representative, grades were randomly selected from all grade levels (9-12). Finally, a systematic sampling technique was used to identify a sample of students from each selected grade. To select individual sample, Krejcie and Morgan's (1970) sample size determination assumption was considered.

2.4. Procedure of Data Collection

The data collection was executed in the Ambo High School found in Ambo town by the lecturers from Ambo University, Institute of Education and Behavioral Sciences. Support letter was secured from Addis Ababa University, School of Psychology and was presented to the Ambo High School Director and consent was then obtained from the school and students. Then, target participants were identified, oriented about the purpose of the study, and then requested for consent. Once their consent was secured, they were given orientation as to how to fill in the form and provided with the scale to fill in.

2.5. The Translation of BFRS to Afan Oromo

The process of translation, adaptation and cross-cultural validation of an instrument from one language to another language involves careful planning and adoption of comprehensive and rigorous approaches (Boateng, Neilands, Frongillo, Melgar-Quiñonez and Young, 2018; Wild *et al.*, 2005). The BFRS is a 19-item with five Likert-point measure which assesses the individual's perceptions of the family relationship in three subscales: Family Cohesion (8 items), Expressiveness (4 items) and Family Conflict (7 items). The process of translation follows six main stages including the forward translation, backward translations, synthesis I, synthesis II, pilot testing and full psychometric study. Hence, the following stages and procedures were carried out in the translation process from English version of BFRS to Afan Oromo version.

2.6. Procedures of the Translation and Adaptation of the Instrument

This study was to translate the BFRS into Afan Oromo. In this study, the BFRS questionnaire is directly translated by the experts following necessary procedures. The BFRS questionnaire which was originally developed in English language was translated into Afan Oromo in accordance to local values and culture. The procedures of translation follows six main stages based on Beaton, Bombardier, Guillemin, and Ferraz, (2000); Guillemin, Bombardier and Beaton (1993) guidelines for the process of cross-cultural adaptation of self-report measures. These procedures involve forward translation, backward translations, synthesis I, synthesis II, pilot testing and full psychometric study.

2.6.1. Forward translation

The forward translation was the first stage planned to ensure the preservation of the content and the meaning of the instrument. This process involves/considers translating the original English version of BFRS into Afan Oromo by two translators. According to Beaton, Bombardier, Guillemin and Ferraz

(2007), at least two independent translators, preferably bilingual, should be involved in the initial forward translation of the instrument from the original language to the target language. In the process of forward translation one Afan Oromo native speaker of Psychology lecturer at university, who completed his primary education where Afan Oromo serves as a medium of instruction and took Afan Oromo as an independent subject at high school level, and one Afan Oromo lecturer who proficient in English were involved as independent translators. The translators were proficient in the English language in which the original instrument developed. Evidences asserted that quality of the translators play a prominent role to maintain the cross-cultural, conceptual and linguistic/literal equivalence of the instrument. Accordingly, instrument translators who are fully proficient in both languages of interest and familiar with the cultures associated with the respective languages should be carefully chosen (Hambleton, 2005). In this manner, the process of forward translation encompasses the translation of the original English version into Afan Oromo independently by two experts.

2.6.2. Synthesis I

In this process, the two forward-translated versions of the instrument and the original version of the instrument are initially compared by two translators and the principal investigator. These experts discussed the ambiguities, meanings and discrepancies of words, sentences and clarity of instructions. Accordingly, with the participation of the researchers and two forward translators, the ambiguities and discrepancies were discussed and resolved using a committee approach. As a result, the psychometric clarity and linguistic clarity such as content clarity, appropriateness of terms and word, suitability of font format and size, arrangement of information on the instrument, instruction, and spacing of the forwarded Afan Oromo version of the instrument were remarkably adjusted. Through this, consensus was achieved to generate the preliminary initial translated Afan Oromo version of BFRS.

2.6.3. Back-translation

In the process of translating and validating instrument back translation is important for clarification of words and sentences used in the translations. Thus, the translated Afan Oromo version of BFRS was translated back to English language by two professionals (both are Assistant Professor of Psychology) who are proficient in both English language and Afan Oromo. These two back translators are blind to the original version or they had no prior knowledge about the original version of BFRS. These two backward translators produced two version of the instrument independently. Back-translation must be performed by at least two translators other than those who performed the first translation (Beaton *et al.*, 2000). The two versions of the translated scale were compared with each other, and each one of these versions were compared with the original English version of the scale to determine its conceptual, semantic and content equivalence. Accordingly, the two back translated versions were matched to revise each item with its response format, wording, and grammatical structure of the sentences. During this process discrepancies and ambiguities on sentences and words were solved through discussion among translators and principal investigator. Thus, the back-translated version of BFRS was produced.

2.6.4. Synthesis II

In this step, both forward and back translated versions and the original version of the instrument were consolidated and evaluated by expert committee. The expert committee comprises of all forward and back translators and investigator. Thus, expert committee carefully compares the instructions, items and response formats of all versions.

Through this process the format, wording, grammatical structure of the sentences, similarity in meaning, relevance and ambiguities and discrepancies that occurred on a few items were discussed and resolved through consensus among the established committee to derive a pre-final Afan Oromo version of the instrument. Hence, items that do not retain their original meaning are re-translated and back-translated to resolve the discrepancies. Additionally, the conceptual equivalence of the original

and translated instrument was evaluated and established. Accordingly, after wisely evaluating and revising the items, instructions, sentences and the response format, the translated Afan Oromo version of the instrument was developed and prepared for pilot and psychometric testing.

Generally, the translation resulted in the establishment of the initial conceptual, semantic and content equivalence of the Afan Oromo version of BFRS. Conceptual equivalence denotes the degree to which a concept of the items of the instrument occurs in both source and target cultures. Semantic equivalence refers to sentence structure, colloquialisms or idioms that ensure that the meaning of the text or idea of the items in the original English version is equivalent to the Afan Oromo version.

2.6.5. Pilot testing: Cognitive debriefing

To examine the validity and reliability of the pre-final Afan Oromo version of BFRS, pilot test was conducted. To evaluate the clarity of instructions, response format and the items of the instrument pilot testing was conducted among Afan Oromo speakers of high school students. Hence, 40 Guder high school students were involved in the pilot testing. The size was determined based on the recommendation by Beaton, Bombardier, Guillemin, and Ferraz (2000) that posited a sample size of 10–40 individuals is recommended for pilot testing.

Participants of pilot testing were asked to rate whether items, instructions and response formats are clear or not. Participants who rate items, instructions, response format as unclear were asked to suggest and provide their own version of the statements to make the language clearer in the space provided in front of the instruction and each items. According to Topf (1986) items, instructions and response formats of the instrument that are found to be unclear by at least 20% of the sample must be re-evaluated to understand them better. Thus, it has been agreed that the minimum inter-rater agreement among the sample is 80%.

After the data was collected with suggestions expert panel with six Psychology professionals including principal investigator, one lecturer from ECCE department of Ambo University, all forward and backward translators inspected items that were reported as unclear by 20% of the participants. According to Lynn (1986); Waltz, Strickland and Lenz (2005), six to ten members of an expert panel who are experts on the construction of the instrument are recommended to evaluate the instrument. Accordingly, the instructions, response format and the items of the instrument denoted as unclear were evaluated and revised by expert panel.

2.6.6. Full psychometric testing of the translated instrument

In this part, the main purpose is to revise and refine the items to derive the final psychometrically sound Afan Oromo version of BFRS through testing the estimates of homogeneity, reliability, and validity with a stable factor structure or model fit.

The most recommended and commonly used psychometric approaches in this step are estimation of: (1) internal consistency reliability, (2) homogeneity, (3) convergent validity, (5) criterion-related validity, (6) factor structure of the instrument, and (7) model fit. The most common statistical approaches are scale and item analysis, factor analysis, Pearson's correlation analysis and descriptive statistics.

2.7. Data Analysis

The data was organized with SPSS software, version 20 for analysis. Different statistical methods were employed to analyze the collected data. Among these methods, exploratory factor analysis, descriptive statistics, Pearson's correlation and Cronbach's α coefficients were estimated to measure indices of reliability.

3. Results

3.1. Demographic Characteristics of Respondents

Table 2. Respondents' information on sex

Sex	N	%
Male	122	52.6
Female	110	47.4
Total	232	100

Table 3. Respondents' information on their family educational level

	Educ. level	Frequency	%
Father's	No education	5	2.2
Educational	Basic education	36	15.5
level	Elementary education	86	37.1
	High school education	42	18.1
	Diploma	34	14.7
	Degree and above	29	12.5
Mother's	No education	12	5.2
Educational	Basic education	80	34.5
level	Elementary education	83	35.8
	High school education	29	12.5
	Diploma	18	7.8
	Degree and above	10	4.3

Data was collected from a total of 232 high school students. Out of this number, 122(52.6%) were males and the rest 110 (47.4 %) were females. In relation to respondents' parental educational level large number of respondents' fathers and mothers 86 (37.1%) and 83 (35.8%) respectively had elementary education. About 36 (15.5) of respondents' fathers and 80 (34.5%) of mothers had basic education, while only few families had Degree and above.

3.2. Reliability of Afan Oromo Version of BFRS

Table 4. Reliability coefficient for the BFRS

S.N	Components	Cronbach's alpha Coefficient	No of items
1	Total BFRS	.916	19
2	Cohesion	.922	8
3	Expressiveness	.678	4
4	Conflict Resolution	.890	7

Table 4 shows the reliability coefficient of the new Afan Oromo version of BFRS. The result revealed that the computed Cronbach's alpha value for the total score is .916, and its subscales; cohesion, expressiveness and conflict had .92, .68 and .89 respectively. This indicated that the new Afan Oromo version of BFRS with its all three components have better internal consistency and acceptable reliability. Thus, the new Afan Oromo Version of BFRS can be utilized in the context the scale was adapted.

3.3. Preliminary Assumption Tests for Exploratory Factor Analysis

To run factor analysis the preliminary assumption tests of normality, sampling adequacy, Sphericity, multicolinearity/singularity were conducted.

3.3.1. Test of normality

Table 5. Kolmogorov's & Shapiro's tests of normality

	Kolmo	gorov-Smirr	nov ^a	Shapiro-Wilk			
	Statistic	Df	Sig.	Statistic	Df	Sig.	
BFRS scores	.056	232	.077	.989	232	.063	

a. Lilliefors significance correction

Normality of the distribution of the data conducted by using the new Afan Oromo version of BFRS was tested. From the Table 5 both Kolmogorov-Smirnov^a (n=232) P=0.77), & Shapiro-Wilk Test (n=232) P=0.63) tests of the distribution were not significantly different from the normal distribution. Thus, the assumption was met to run factor analysis. Furthermore, the following histogram shows that the distribution is almost normally distributed.

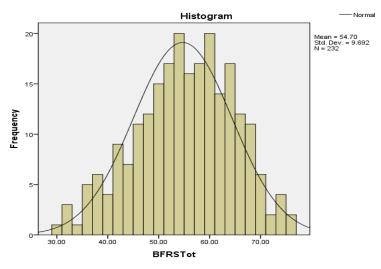


Figure 1. Histogram for normality test

3.3.2. Test of sampling adequacy and sphericity

To test whether the selected sample was adequate or not, Kaiser-Meyer-Olkin Measure of Sampling Adequacy was computed.

Table 6. Test of sampling adequacy

Kaiser-Meyer-Olkin measure	of sampling adequacy	.932
Bartlett's test of sphericity	Approx. Chi-Square Df	2362.296 171
	Sig.	.000

The summary of the KMO and Bartlett's test of sampling adequacy shows that the selected sample was adequate. Information from different direction asserted that the overall sample size should be 150+ and there should be a ratio of at least five cases for each of the variables. In current validation study, data was collected from 232 sample for 19 (nineteen) items which met the criteria and about 12 (twelve) cases for each item.

To be considered suitable for factor analysis, Bartlett's test of sphericity should be statistically significant at p < .05 and the Kaiser-Meyer-Olkin value should be .6 or above. In current data the Kaiser-Meyer-Olkin value was .932, which indicates that the distribution was suitable for factor analysis.

Bartlett's test of sphericity shows that the variables in the new Afan Oromo Version of BFRS items are related because there was a statistically significant relationship among the items. In current study, Bartlett's test was highly significant at (P=0.000) which indicated that factor analysis structure detection was suitable with this data.

3.3.3. Multicolinearity/singularity

Multicolinearity and singularity was checked through identifying the determinant of the R-Matrix. Accordingly, R-Matrix is greater than the conventional cut-off-point. The determinant of the R-Matrix in this case was 2.61E-005 which was greater than the conventional cut-off point.

3.4. Factor Analysis for the New Afan Oromo Version BFRS

3.4.1. Factor extraction

To determine the variances explained by each factor, factor extraction was explained. Using Kaiser's criterion, components that have an eigenvalue of 1 or more were considered. To determine how many components meet this criterion, we need to look at the Total Variance Explained table. In this study, only the first three components with eigenvalues above 1 (7.899, 2.223, 1.509) were taken as components or factors. These three components explain a total of 61.218 percent of the variance (see cumulative % column). Therefore, in the current study, three factors were identified and observed to explain the majority of the variance. Table 7 clearly indicates the number of factors with their respective variances.

Table 7. Variance explained by factors extraction

Component		Initial Eigenv	values	Extra	action sums	Rotation sums	
					loading	of squared	
							loadings ^a
	Total % of Cumulative		Total	% of	Cumulative	Total	
		variance	%		variance	%	
1	7.899	41.575	41.575	7.899	41.575	41.575	6.640
2	2.223	11.699	53.275	2.223	11.699	53.275	6.126
3	1.509	7.943	61.218	1.509	7.943	61.218	3.174
4	.830	4.371	65.588				
5	.765	4.025	69.614				
6	.722	3.801	73.415				
7	.646	3.402	76.816				
8	.595	3.130	79.947				
9	.535	2.814	82.761				
10	.460	2.420	85.180				
11	.429	2.260	87.440				
12	.394	2.072	89.512				
13	.361	1.898	91.410				
14	.348	1.830	93.241				
15	.302	1.592	94.833				
16	.276	1.453	96.285				
17	.265	1.394	97.680				
18	.232	1.222	98.901				
19	.209	1.099	100.000				

Extraction method: Principal component analysis.

3.4.2. Factor identification by using scree plot

To further determine and confirm the number of factors that explained the majority of the variance in the whole scales, the scree plot was also used. In this process, all factors with Eigenvalues greater than 1 (one) was retained. Thus, for further parallel analysis three factors with Eigenvalues >1 were observed on the scree plot.

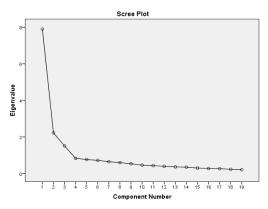


Figure 2. Scree plot for factor identification

3.4.3. Parallel analysis

To determine the number of factors parallel analysis was computed. For this procedure, the researchers used the list of Eigenvalues provided in the total variance explained table. In this process, the first Eigenvalue obtained was systematically compared with the corresponding first value from the random results generated by parallel analysis.

	Table 8.	Description	of exp	lained	variance
--	----------	-------------	--------	--------	----------

Root	First Eigenvalues	Random data Eigenvalues
1.000000	7.899339	1.646824
2.000000	2.222846	1.501909
3.000000	1.509155	1.410283
4.000000	.830464	1.343122
5.000000	.764764	1.283785
6.000000	.722224	1.224165
7.000000	.646316	1.162678
8.000000	.594759	1.101244
9.000000	.534637	1.060213
10.000000	.459777	1.008421
11.000000	.429342	.968623
12.000000	.393748	.919337
13.000000	.360536	.876904
14.000000	.347794	.836414
15.000000	.302485	.795297
16.000000	.276051	.750681
17.000000	.264914	.704150
18.000000	.232096	.668905
19.000000	.208752	.605763

Date: 17/07/2019; Number of subjects: 232; Number of variables: 19; Number of replications: 100

The value of Eigenvalue is important to decide the number of factors. Hence, if Eigenvalue obtained is larger than the criterion value from parallel analysis (in case Eigenvalue >1), the factor was retained. Based on this, three factors have been retained in this study.

Table 9. Comparison of eigenvalues from principal component analysis (PCA) and criterion values from parallel analysis

Number	of	Actual Eigenvalue from PCA	Criterion value from	Decision
component			parallel analysis	
1		7.899339	1.646824	Accept
2		2.222846	1.5019092	Accept
3		1.509155	1.4102831	Accept
4		.830464	1.343122	Reject

3.4.4. Factor extraction and communalities of variance

Before computing factor extraction, we assume that all variance among all items are equally distributed in the new Afan Oromo version of BFRS. In this study, the variance associated with a single item was related to other items (See Table 10). For instance, 76.5% of the variance associated with item 1 was common for all the remaining items in the scale, and 77.5% of the variance associated with item 2 was common for all the remaining items in the scale.

Table 10. Communalities of items

Items	Initial	Extraction	
BFRS1	1.000	.765	
BFRS2	1.000	.775	
BFRS3	1.000	.487	
BFRS4	1.000	.587	
BFRS5	1.000	.674	
BFRS6	1.000	.641	
BFRS7	1.000	.701	
BFRS8	1.000	.465	
BFRS9	1.000	.536	
BFRS10	1.000	.682	
BFRS11	1.000	.553	
BFRS12	1.000	.640	
BFRS13	1.000	.679	
BFRS14	1.000	.694	
BFRS15	1.000	.390	
BFRS16	1.000	.661	
BFRS17	1.000	.470	
BFRS18	1.000	.534	
BFRS19	1.000	.700	

Extraction Method: Principal component analysis

3.4.5. Variable loading before and after rotation

To determine the loading value of each item onto each factor, variable loading was computed (See Table 11).

Table 11. Factor loading of the extracted scale components, pattern matrix and structural matrix (before and after factor rotation)

Variable 1	loading b	efore ro	tation	Variable 1	oading	after fac	ctor rot	ation				
C	ompone	nt matrix		P	attern	matrix		Structi	ural ma	atrix		
Items	1	2	3	Items	1	2	3	Items	1	2	3	
BFRS1	.774	401		BFRS1	.870			BFRS1	.874	.437		
BFRS6	.756			BFRS14	.866			BFRS7	.836	.454		
BFRS7	.750	-371		BFRS7	.818			BFRS14	.827	.348		
BFRS16	.741	334		BFRS12	.812			BFRS16	.810	.465		
BFRS2	.739	.411		BFRS16	.775			BFRS10	.804	.483		
BFRS19	.731	.362		BFRS10	.774			BFRS12	.797	.367		
BFRS10	.729	354		BFRS6	.717			BFRS6	.791	.496	.308	
BFRS14	.701	437		BFRS3	.680			BFRS3	.695	.362		
BFRS5	.697	.331		BFRS2		.876		BFRS2	.451	.880	.330	
BFRS13	.695	.383		BFRS13		.816		BFRS19	.469	.834	.351	
BFRS12	.693	389		BFRS5		.814		BFRS13	.427	.824	.314	
BFRS11	.661	.312		BFRS19		.790		BFRS5	.451	.817		
BFRS9	.642			BFRS9		.695		BFRS11	.432	.739	.334	
BFRS3	.627			BFRS11		.681		BFRS9	.421	.729		
BFRS15	.477	.386		BFRS15		.638		BFRS15		.614		
BFRS4	.391		.626	BFRS4			.766	BFRS4			.761	
BFRS18	.336	.313	.568	BFRS18			.736	BFRS18			.729	
BFRS8	.402		.507	BFRS8			.649	BFRS8			.677	
BFRS17	.410	.337	.434	BFRS17			.617	BFRS17		.385	.670	
Extraction	method:	Principa	1 compon	ent Extrac	tion	method:	Pri	ncipal Extr	action	metho	od: F	Principal
analysis.						alysis.				analysis.		
a. 3 compo	nents extr	acted.		Rotatio	on me	thod: O	blimin	with Rota	tion	method:	Oblimi	n with

Concerning the significance of the loading value, various evidences asserted that loading value <0.5 have low loading value and even not considered. Thus, item number 15 and 17 with .477 and .434 loading value respectively have low loading value in this research. But after rotation both items show a significant loading value.

Kaiser normalization.

Kaiser normalization.

Three factors were identified through factor extraction. Factor loading and rotation indicates the loading value and on which each items loaded. Accordingly, 19 (nineteen) items were loaded in three factors with significant and positive loading values. Hence, items number 1, 3, 6, 7, 10, 12, 14, and 16 were loaded on Factor I; items number 2, 5, 9, 11, 13, 15, and 19 were significantly loaded on Factor III and items number 4, 8, 17 and 18 were significantly loaded on Factor III. As it can be observed from factor loading and rotation table, item number 15 and 17 have low loading values. Though the two items have low loading values compared to other items, they were not deleted because they were nearly consistent and their extraction values and loading value was >0.3. Lastly, it has been recognized that Factor I, Factor II and Factor III represent the three components of BFRS of Afan Oromo version. These components are Cohesion with 8 (eight) items: item number 1, 3, 6, 7, 10, 12, 14, and 16; Conflict Resolution with seven (7) items: Item number 2, 5, 9, 11, 13, 15, and 19 and Expressiveness scale which consists of four items: item number 4, 8, 17 and 18. The internal

consistency of the three components was checked through measures of internal consistency (Cronbach's alpha) (See Table 4) and the three of them have significant internal consistency.

3.5. Confirmation of Criterion and Convergent Validity

To check the criterion and convergent validity of the new BFRS scale of Afan Oromo version, the relationship between the new version and one validation tool (i.e. FAD: Family assessment devices) was computed. To compute the relationship of two variables, Pearson Product Moment Correlation Coefficients was computed. Table 12 shows the correlation of the new BFRS of Afan Oromo version and FAD.

Table 12. Correlation between BFRS components and validation tool (i.e. FAD)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Fathers' educ.	1														
2. Mothers' educ.	.683**	1													
3. No. family members	- .457**	415**	1												
4. BFRS tot	.689**	.502**	358**	1											
5. Cohesion	.605**	.428**	309**	.875**	1										
6. Expressiveness	.535**	.439**	212**	.615**	.355**	1									
7. Conflict Reso.	.523**	.366**	312**	.844**	.545**	.436**	1								
8. FAD	.643**	.460**	321**	.639**	.609**	.324**	.514**	1							
9. GF	.598**	.406**	278**	.575**	.553**	.291**	.454**	.889**	1						
10. PS	.600**	.429**	317**	.625**	.607**	.303**	.493**	.921**	.797**	1					
11. CM	.569**	.401**	227**	.561**	.550**	.253**	.442**	.834**	.851**	.773**	1				
12. Roles	.545**	.424**	229**	.440**	.383**	.339**	.343**	.809**	.627**	.747**	.555**	1			
13. AI	.531**	.398**	282**	.493**	.435**	.310**	.415**	.830**	.578**	.736**	.504**	.831**	1		
14. AR	.504**	.356**	260**	.583**	.568**	.263**	.472**	.877**	.726**	.750**	.700**	.623**	.695**	1	
15. BC	.515**	.371**	320***	.550**	.540**	.209**	.457**	.855**	.651**	.764**	.595**	.615**	.731**	.789**	1

^{**=}Correlation is significant at the 0.01 level (2-tailed).

Note: GF: General functioning; PS: Problem solving; CM: Communication; AI: Affective involvement; AR: Affective responsiveness; BC: Behavioural control

^{*=}Correlation is significant at the 0.05 level (2-tailed).

Convergent validity: Table 12 shows that the total score of newly validated BFRS of Afan Oromo version was positively and significantly correlated to FAD (validation instrument) (r=.639, P<.01). There was also a positive and significant relationship between BFRS and seven components of FAD; General functioning (GF) (r=.575, p<.01), Problem solving scores (PS) (r=.625, p<.01), Communication (CM) (r=.561, p<.01), Roles(r=.440, p<.01), Affective involvement (AI) (r=.493, p<.01), Affective responsiveness (AR) (r=.585, p<.01) and Behavioral control (BC) (r=.550, p<.01. The relationship between components of BFRS and FAD was also computed. Accordingly, three components of BFRS Afan Oromo Version (i.e. Cohesion, Expressiveness and Conflict Resolution) were significantly and positively correlated with total score of FAD and its components. This shows that the newly validated Afan Oromo version of BFRS has a convergent validity because it has positive and significant relationship with its validating tools.

Criterion Validity: To check criterion validity, the extent to which the newly validated BFRS Afan Oromo version is related to some demographic variables which related to the instrument in previous studies was conducted. Accordingly, how parental education level and number of family members related to Afan Oromo version BFRS was computed. Thus, Pearson Product Moment Correlation Coefficients result shows that there was a positive and significant relationship between BFRS Afan Oromo version and fathers educational level (r=.689° P<0.01) and mothers Educational level (r=.502, P<.01). There was also a negative relationship between family members and BFRS Afan Oromo version (r=-.358, P<.01). This shows that as parental education increases family relationship increases, and as number of family member increases family relationship also decreases. This result was supported by various studies conducted on the same area. As a result, criterion validity for the newly developed scale was met.

3.6. Checking Non-Psychometric Properties

Validity of the instrument was also examined based on the process of some non-psychometric properties that have been taking place throughout the study. These properties include checking the all process of translation and the content validity of the instrument.

3.6.1. Examining translation processes

The original instrument was carefully translated into Afan Oromo relying on necessary guidelines based on various scholars' suggestions.

Forward translation and synthesis I: Based on guidelines and suggestions, the translation of English version of BFRS into Afan Oromo follows necessary procedures. To maintain quality of translations, qualified translators were involved. The forward translation was made by two University professionals who are native Afan Oromo speakers to maintain the clarity, comprehension, naturalness and adequacy of the instrument. The two forward-translated Afan Oromo versions of the instrument and the original version of the instrument are initially compared by a third university profession and two forward translators regarding ambiguities and discrepancies of words, sentences and meanings.

As a result, the psychometric clarity and linguistic clarity such as content clarity, appropriateness of terms and word, suitability of font format and size, arrangement of information on the instrument, instruction and spacing of the forwarded Afan Oromo version of the instrument were adjusted. Through this, consensus was reached on generating the preliminary initial translated Afan Oromo version of BFRS. Lastly, Afan Oromo version of BFRS on which experts agreed was retained and prepared for backward translation.

Backward translation and synthesis II: In this process, Afan Oromo version of BFRS was translated back into the original language (i.e English language) by two other independent translators who were proficient in English and Afan Oromo who have not seen the original scale. Through this translation, the quality of the instrument that makes the instrument more valid was enhanced.

Concerning synthesis II, four individuals who involved in back translation and forward translation and the researcher came together to compare the instructions, items and response format of the two back-translations. Translators evaluated similarity of the instructions, items and response format regarding wording, sentence structure, meaning and relevance. Lastly, to see the validity and reliability of the new Afan Oromo version of BFRS, pilot test was conducted and adjustment was made on some items. All these processes had a prominent role in validating the instrument.

Checking content validity and face validity: Content validity and face validity were checked to produce the Afan Oromo version of BFRS. Both face and content validation were assured by expert judgment. After the BFRS was translated into Afan Oromo, face validation was done by two experts from Ambo University to ensure accuracy and suitability with the target groups. Through this process, the instrument was evaluated from the aspects of word accuracy and sentence structures.

4. Discussions

Measures of family functioning are used for both clinical and research purposes. Such measures may be used to describe patterns of family life and pathology, as potential predictors of outcome, or as outcome measures themselves (Vostanis and Nicholls, 1995; Moos and Moos, 2009). Self-completed questionnaire like Brief Family Relationship Scale with are easier to administer than observational and/or independently rated instruments that require training. They are also less expensive and time-consuming. However, their validation needs to be tested in cross-sectional and longitudinal studies (Vostanis and Nicholls, 1995). The objective of this study was to validate Afan Oromo version of BFRS.

Concerning the level of the participants on BFRS and its subscales the result of the study shows that majority of the participants scored either moderate or high score on cohesion and conflict resolution whereas they scored less in expressiveness. This shows that the local adolescents were less expressive. This may be as a result of the fact that Ethiopian culture is typically characterized by a collectivist and authoritarian parenting. Authoritarian parenting could lead to a reasonably suppressive social environment which contributes to less expressive adolescents (Boake and Salmon, 1983). Throughout the process of the translation basic linguistic issues, cultural construct, psychometric, and other non-psychometric properties were carefully addressed. The findings of the present study shows that the three of the BFRS scales had good validity for research involving high school adolescents. The three components fit to a Confirmatory Factor Analysis (CFA) model well, and were validated against a wide range of convergent, criterion, content and face validity variables.

In this study, the calculated reliability for each of the three BFRS subscales shows that all had acceptable internal consistency which ranges from 0.678 to 0.922. In this study, cohesion and conflict scales had high internal consistency with 0.922 and 0.890 Cronbach's alpha coefficient but expressiveness had .678 Cronbach's alpha coefficient which is low compared to other two components. Consistent with this study, Ma and Leung (1990) reported low reliabilities with the expressiveness subscale in Hong Kong and they stated that some items may not have equivalent meaning. A study by Vianna *et al.* (2007) revealed that the best reliability rates were attained in the cohesion (0.87), conflict (0.83) and expressiveness (0.78) subscales when they validated Portuguese version of the Family Environment Scale.

In this validation study, the reliability or internal consistency value for cohesion and conflict components were higher whereas they were lower for expressiveness. The higher the subscale the more the scale fit to the context of targeted language to which the instrument is translated. Hence, in this research both cohesion and conflict subscales are found to fit to Ambo high school adolescents whereas expressiveness subscale has shown low internal consistency. The best reliability for cohesion may reflect the collectivist characteristics of families in Ethiopia rather than individualistic. Cohesion refers to the degree of support and commitment family members provide for one another which are characteristic of collectivist culture evident in Ethiopia. On the other hand, the low reliability in the expressiveness may relate to authoritarian parenting style of the community.

After testing a preliminary assumption, exploratory factor analysis and parallel analysis were conducted. The result of factor analysis shows 19 (nineteen) items were loaded in three factors with significant and positive loading values. Accordingly, items number 1, 3, 6, 7, 10, 12, 14, and 16 were loaded on Factor I, items number 2, 5, 9, 11, 13, 15, and 19 were significantly loaded on Factor II, and items number 4, 8, 17 and 18 were significantly loaded on Factor III. Compared to other items, item number 15 and 17 have low loading values. The three factors (Factor I, Factor II and Factor III) represent the three components of BFRS scale of Afan Oromo version which were confirmed through parallel analysis. These components are Cohesion with 8 (eight) items: item number 1, 3, 6, 7, 10, 12, 14, and 16; Conflict Resolution with seven (7) items: Item number 2, 5, 9, 11, 13, 15, and 19; and Expressiveness Scale which consists of four items: item number 4, 8, 17 and 18. Two items; item number 15 and 17 had low loading value though they were not removed as their loading value is greater than cutting point (.30). In consistent with this study, in the validation study of BFRS by Ting Fok, Allen, and Henry (2014), three items (item number 10, 15 and 17) showed low psychometric properties in the process of analyses. This indicated that item number 15 and 17 had low loading value in different cultures. Thus, special attention should be given to these two items in future study.

To check the convergent validity of BFRS, the Pearson Product Moment Correlation was computed. The BRFS scores correlated in the expected direction with the FAD scores (r=.639, p<.01) and its components; General functioning (GF) (r=.575, p<.01), Problem solving scores (PS) (r=.625, p<.01), Communication (CM) (r=.561, p<.01), Roles(r=.440, p<.01), Affective involvement (AI) (r=.493, p<.01), Affective responsiveness (AR) (r=.585, p<.01) and Behavioral control (BC) (r=.550, p<.01).

Criterion validity was also checked through looking at the relationship between the new BFRS of Afan Oromo version and some demographic variables. Accordingly, the newly validated BFRS was positively and significantly correlated to father's educational level (r= .689, P<0.01) and mother's educational level (r=.683, P<0.01). The significant relationship between BFRS and demographic variables indicated as the criterion validity of the newly validated and adapted scale has been met. High validity and reliability values have proven that the process of the translation was successful. Generally, the validity and reliability for the BFRS questionnaire are high. These proved that BFRS can be utilized in Ethiopian society. The newly validated BFRS Afan Oromo version will be an alternative scale especially to the psychological, counseling and psychometric fields.

5. Conclusion

This study has successfully translated the English version of BFRS into Afan Oromo. A research shows that measures of family functioning are used for both clinical and research purposes (e.g. Pritchett et al., 2011). This study indicated that participants had slightly high score and high internal consistency on cohesion and conflict and low score on expressive. This reflected the collectivist nature of Ethiopian society and authoritarian family style in which individuals characterized by low score on expressiveness and high score on cohesion and conflict resolution. This indicated that culture and lifestyle plays a vital role in understanding the concept of a certain instruments. Through factor analysis, the newly validated BFRS scale of Afan Oromo version produced three factors or subscales. These components are Cohesion with 8 (eight) items: item number 1, 3, 6, 7, 10, 12, 14, and 16; Conflict Resolution with seven (7) items: Item number 2, 5, 9, 11, 13, 15, and 19 and Expressiveness scale which consists of four items: item number 4, 8, 17 and 18. Concerning the value of each item, loading item number 15 and 17 had low item value. The newly validated Afan Oromo version of BFRS obtained good validity and reliability values, and this in turn significantly contributes to the psychology and counseling development in Ethiopia. This instrument is useful for understanding both the individuals' perceptions of family climate and the family perception. Generally, this study has proved that the BFRS questionnaires are appropriate with the Ethiopian values and cultures. Thus, the cross-cultural adaptation and validation of the Afan Oromo version of BFRS is important to assess the families in Ethiopia.

6. Recommendations

Based on the findings of this study, the following recommendations have been made.

The Afan Oromo version of BFRS which was translated from its original English version received expert's evaluation and depicts a good reliability and validity. Thus, the newly adapted instrument should be accepted and utilized in assessing the family relationship in Ethiopia and can be adapted to other cultures.

Based on the good validity and reliability of BFRS for application, other studies should be done to prove the effectiveness of the BFRS, such as the study of correlation with other questionnaires, test and retest, confirmatory factor analysis, and so on.

An experimental study on family functioning enhancement by using BFRS questionnaire should be done among the adolescents in Ethiopia to enhance positive family functioning and develop the concept.

Lastly, Afan Oromo version of BFRS requires further culturally appropriate revision involving different members of the family and using large sample size. Thus, further studies have been recommended to examine this question using complete family data.

7. References

- Anderson, S. A. and Sabatelli, R. M. 1999. *Family interaction: A multigenerational developmental perspective* (2nd ed.). Boston: MA: Allyn & Bacon.
- Beaton, D. E., Bombardier, C., Guillemin, F. and Ferraz, M. B. 2000. Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, 25 (24): 3186-3191.
- ______. 2007. Recommendations for the cross-cultural adaptation of the DASH and quick DASH outcome measures. Toronto: Institute for Work and Health.
- Boake, C. and Salmon, P. G. 1983. Demographic correlated and factor structure of the family environment scale. *Journal of Clinical Psychology*, 39 (1): 95-100.
- Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quiñonez, H. R. and Young, S. L. 2018. Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Front. Public Health*, 6: 1-18.
- Comfrey, A. L., Lee, H. B. 1992. *The first course in factor analysis*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Guilamo-Ramos, V., Jaccard, J., Turrisi, R., and Johansson, M. 2005. Parental and school correlates of binge drinking among middle school students. *American Journal of Public Health*, 95 (5): 894-899.
- Guillemin, F., Bombardier, C., Beaton, D. 1993. Cross-cultural adaptation of health-related quality of life measures: Literature review and proposed guidelines. *Journal of clinical epidemiology*, 46 (12): 1417-1432.
- Hair, F. J., Black, C. W., Babin, J. B. and Anderson, E. R. 2014. *Multivariate data analysis* (7th ed.). Edinburgh Gate: Pearson.
- Hambleton, R. K. and Li, S. 2005. Translation and adaptation issues and methods for educational and psychological tests. In: C. L. Frisby and C. R. Reynolds (Eds.), *Comprehensive handbook of multicultural school psychology*. John Wiley & Sons, Inc. PP. 881–903.
- Krejcie, V. and Morgan, W. 1970. Determining sample size for research activities. *Educational and Psychological Measurement*, 30: 607-610.
- Lynn, M. R. 1986. Determination and quantification of content validity. *Nursing Research*, 35 (6): 382–385.
- Ma, H. K., and Leung, M. C. 1990. The adaptation of the family environment scale to Chinese children and adolescents. *International Journal of Psychology*, 25 (2): 545–555.
- Moos, R. H. and Moos, B. S. 1986. *The family environment scale: The manual.* Palo Alto, CA: Consulting Psychologists Press.

- _____. 1994. *Family environment scale manual* (3rd ed.). Palo Alto, CA: Consulting Psychologists Press.
- _____. 2009. Family environment scale manual (4th ed.). Palo Alto, CA: Consulting Psychologists Press.
- Pritchett, R., Kemp, J., Wilson, P. Minnis, H., Bryce, H. and Gillberg, C. 2011. Quick, simple measures of family relationships for use in clinical practice and research: A systematic review. *Family Practice*; 28 (2): 172–187.
- Topf, M. 1986. Three estimates of inter-rater reliability for nominal data. *Nursing Research*, 35 (4): 253–255.
- Roosa, M. W. and Beals, J. 1990. Measurement issues in family assessment: The case of family environment scale. *Family Process*, 29 (2): 191-198.
- Sanford, K., Bingham, C. R. and Zucker, R. A. 1999. Validity issues with the family environment scale: Psychometric resolution and research application with alcoholic families. *Psychological Assessment*, 11 (3): 315–325.
- Ting Fok, C. C., Allen, J. and Henry, D. 2014. The brief family relationship scale: A brief measure of the relationship dimension in family functioning: *Assessment*, 21 (1): 67–72.
- Vianna, V. P., Silva, E. A. and Souza-Formigoni, M. L. 2007. Portuguese version of the family environment scale: Application and validation. *SaudePublica*, 41 (3): 1 8.
- Vostanis, P. and Nicholls, J. 1995. *The family environment scale: Comparison with the construct of expressed emotion*. The Association for Family Therapy. Cowley Road, Oxford: Blackwell Publishers.
- Waltz, C. F., Strickland, O. L. and Lenz, E. R. 2005. *Measurement in nursing and health research* (3rd ed.). New York: Springer Publishing Company.
- Watson, W. H. 2012. Encyclopedia of human behavior (2nd Ed.).
- Wild, D, Grove, A., Mona, M., Eremenco, S., McElroy, S., Verjee-Lorenz, A. and Erikson, P. 2005. Principles of good practice for the translation and cultural adaptation process for patient-reported outcomes measures: Report of the ISPOR taskforce for translation and cultural adaptation. *Value in Health*, 8 (2): 94-104.

Appendix A:

English version of brief family relationship scale (BFRS)

S/N	Items	Level of agreement				
		1	2	3	4	5

- 1. In our family, we really help and support each other.
- 2. In our family, we argue a lot. (R)
- 3. In our family, we spend a lot of time doing things together at home.
- 4. In our family, we can talk openly in our home.
- 5. In our family, we are really mad at each other a lot. (R)
- 6. In our family, we work hard at what we do in our home.
- 7. In our family, there is a feeling of togetherness.
- 8. In our family, we sometimes tell each other about our personal problems.
- 9. In our family, we lose our tempers a lot. (R)
- 10. In our family, we do things for each other without being asked.
- 11. In our family, we often put down each other. (R)
- 12. My family members really support each other.
- 13. My family members sometimes are violent. (R)
- 14. I am proud to be a part of our family.
- 15. In our family, we work out our problems.
- 16. In our family, we really get along well with each other.
- 17. In our family, we are usually careful about what we say to each other.
- 18. In our family, we begin discussions easily.
- 19. In our family, we raise our voice when we are mad. (R)

BFRS item description:

Cohesion: 1, 3, 6, 7, 10, 12, 14, 16

Expressiveness: 4, 8, 17, 18

Conflict Resolution: 2, 5, 9, 11, 13, 15, 19

Dabalee B (Appendix B):

Safartuu sadarkaa hariiroo maatii (Afan Oromo version of brief family relationship scale)

Lakk.	Gaaffilee		Sadarkaa waliigaltee					
		1	2	3	4	5		
1.	Maatii keenya keessa walgargaarsii fi walhubannaan sirritti jira.					_		
2.	Maatii keenya keessatti yeroo hedduu walfalmina.							
3.	Maatiin keenya yeroo baay'ee waantoota adda addaa waliin hojechuun dabarsu.							
4.	Mana keenya keessatti waa'ee jireenya keenyaa iftoominaan ni mari'anna.							
5.	Yeroo baay'ee maatii keenya keessatti walitti aaruun ykn walceepha'uun ni mul'ata.							
6.	Wantoota maatii keenyaaf barbaachisan xiyyeefannoo guddaan ni hojjenna.							
7.	Maatii keenya keessa miirri tokkummaa jira.							
8.	Maatii keenya keessatti yeroo tokko tokko rakkoo dhunfaa kenyaa waliin ni haasofna.							
9.	Yeroo baay'ee maatii keenya keessa walmufannaan ni mul'ata.							
10.	Maatii keenya keessa gaaffii tokko malee walgargaarsiif waldeeggarsi jira.							
11.	Yeroo baay'ee maatii keenya keessatti walirraanfachuu ykn waldagachuutu mul'ata.							
12.	Miseensi maatii keenyaa sirritti wal deeggaru/walgargaaru.							
13.	Miseensi maatii keenyaa al tokko tokko waldhabu/wallolu.							
14.	Miseensa maatii koo ta'uu kotti baay'een gammada/boona.							
15.	Maatii keenya keessatti rakkoo keenya irraatti hin hojjennu.							
16.	Maatiin keenya hariiroo fi walmarasifannaa cimaa qaba.							
17.	Yeroo hundumaa waan walitti dubbannu irratti ofeeggannoo ni taasifna.							
18.	Maatii keenya keessatti yoo marii barbaadnne salphumatti mari'anna.							
19.	Maatii keenya keessatti yeroo walitti aarru baay'ee walitti iyyina/wacna.					_		

Appendix C

Family assessment devices

S/N	Items	Leve	:1			of
		agree	eme	nt		
		1 2	3	, ,	4	5

- 1. Planning family activities is difficult because we misunderstand each other.
- 2. We resolve most everyday problems around the house.
- 3. When someone is upset the others know why.
- 4. When you ask someone to do something, you have to check that they did it.
- 5. We don't know what to do when an emergency comes up.
- 6. We are reluctant to show our affection for each other.
- 7. We cannot talk to each other about the sadness we feel.
- 8. We usually act on our decisions regarding problems.
- 9. You only get the interest of others when something is important to them.
- 10. You can easily get away with breaking the rules.
- 11. People come right out and say things instead of hinting at them.
- 12. Some of us just don't respond emotionally.
- 13. We avoid discussing our fears and concerns.
- 14. We have trouble meeting our bills.
- 15. After our family tries to solve a problem, we usually discuss whether it worked or not.
- 16. We are too self-centered.
- 17. We have no clear expectations about toilet habits.
- 18. We do not show our love for each other.
- 19. There are lots of bad feelings in the family.
- 20. We get involved with each other only when something interests.
- 21. We show interest in each other when we can get something out of it personally.
- 22. We resolve most emotional upsets that come up.
- 23. Tenderness takes second place to other things in our family.
- 24. Making decisions is a problem for our family.
- 25. Our family shows interest in each other only when they can get something out of it.
- 26. We are frank with each other.
- 27. We don't hold to any rules or standards.
- 28. If the rules are broken, we don't know what to expect.
- 29. We don't get along well together.
- 30. We are generally dissatisfied with the family duties assigned to us.
- 31. Even though we mean well, we intrude too much into each other's lives.
- 32. We confide in each other.
- 33. When we don't like what someone has done, we tell them.
- 34. We try to think of different ways to solve problems.

Dabalee D (Appendix D)

Madaaltuu Iyyaafannoo Maatii (Afan Oromo Version of Family Assessment Devices)

Lakk.	Gaaffilee	Sadarkaa waliigaltee						
		1	2	3	4	5		
1.	Sababii maatii keenya keessattii walhubannaan hin jirreef karooraan							
2	socho'uun ni ulfaata. Hin socho'u.							
2.	Nuti rakkoowwan guyyaa guyyaan numudatan manumatti furanna.							
3.	Yeroo namni tokko mufatu, warri biroon maaltu akka mudate ni							
4	beeku.							
4.	Yeroo namni tokko akka waa hojjetuuf gaafattu, hojjechuu danda'uu							
5	isaa adda baafachuu qabda.							
5. 6.	Wanti muddisiisaan yoroo mudatu maal akka hojjennu hin beeknu.							
6. 7.	Nuti walii keenyaaf jaalala ho'aa waliif hin argisiifnu.							
7. 8.	Miirri gaddaa yoo nutti dhaga'ame walitti hin himannu. Nuti yeroo baay'ee rakkoo furuuf waan murteessine irratti ni hojjenna.							
o. 9.	Wanti namootaaf barbaachisu tokko yoo argame ati bu'aan sun siif							
J.	ta'a.							
10.	Haaluma salphaan seera cabsitee ba'uu/deemuu ni dandeessa.							
11.	Namootarratti alkallattidhaan osoo hin taane ifaa ifatti dubbachuun ni							
11.	danda'u.							
12.	Namootni tokko tokko miiraan deebii hin kenninu.							
13.	Sodaa fi yaaddoo keenya irratti hin mariyannu.							
14.	Dhimma keenya irratti nmariyachuun ni rakkisa.							
15.	Erga maatiin keenya rakkoo furuuf yaalanii booda, nuti yeroo bay'ee							
	furnmaanni sun hojjechuuf dhiisuu isaa irratti ni mariyanna.							
16.	Nuti baay'ee ofittoodha/dhimma dhuunfaa keenyaa irratti							
	xiyyeeffanna.							
17.	Haala fayyadama mana fincaanii irratti kallattiin ifa ta'e hin jiru.							
18.	Nuti jaalala keenya waliif hin ibsinu.							
19.	Maatii keenya keessa miira badaa baay'eetu jira.							
20.	Nuti yeroo wanti gaariin jiru qofa waliin hirmaanna.							
21.	Yeroo akka dhuunfaatti haala tokko keessa baanuttillee fedhiin waliin							
	socho'uu jira.							
22.	Miira namaa baay'ee kan ho'isu yoo mudate ni furra.							
23.	Rifannaan wanta biroo caalaa xiyyeeffannoo hin qabu.							
24.	Murtoo dabarsuun maatii keenya ni rakkisa.							
25.	Maatiin keenya yeroo waanta tokko keessaa ba'uu danda'an qofa							
	xiyyeeffannoo waliif kennu.							
26.	Nuti walii keenyaaf iftoomina qabna.							
27.	Seeraa fi duudhaa kamiyyuu hin fudhannu.							
28.	Seerri yoo cabe, maaltu akka ta'u hin beeknu.							
29.	Nuti sirriitti waliin hin taanu.							
30.	Nuti hojii maatii nutti kennamutti gammadoo miti.							
31.	Sirriitti waliif yaadnullee, jireenya walii keessa baay'ee ni seenna							
32.	Nuti iftoomina waliif qabna.							
33.	Wanta namni tokko hojjete yoo hin jaallanne ta'e, itti ni himna.							
34.	Rakkoo furuuf kallattii garaa garaatiin ni yaadna.							