Validation of Family Adaptability and Cohesion Evaluation Scale (FACES-IV) in Afan Oromo Contexts for Measuring Family Functioning

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Article History: Received: July 29, 2020; Accepted: July 7, 2021; Published: December 15, 2021

Abstract: The aim of this study was to assess the psychometric features of FACES-IV in Afan Oromo contexts to adapt and use in measuring family functioning. This tool consisted of six subscales each having 7 items and two validation scales that had 10 items each. In its validation, gathering psychometric data from 182 randomly drawn students from a total of 507 in *Sebeta* College of Special Needs Teachers' Education and analyzing with SPSS has taken place. As regards of the analysis, the preliminary assumptions like normality, sampling adequacy and sphericity were met implying that the required factor analysis was possible. Subsequent analyses revealed that the psychometric properties of the translated version were tenable. Hence, extraction outputs and loading values for construct validity, Alpha Coefficients for reliability, Pearson correlations for convergent validity, ANOVA for criterion-related validity, expert judgments and loading values of items to their constructs for content validity were fairly acceptable. Thus, determination of the six factors that explained majority of the variance in the scales was realized. Moreover, average values of communality and loading of items for Cohesion and Flexibility, Alpha coefficients, the relations that healthy/unhealthy family functioning had with family communication and satisfaction enabled us address the issues of validations and make decisions like item reductions and retentions. Finally, therefore, as few items in the Afan Oromo version of the FACES-IV had limitations, it was recommended that preceding practitioners should make further validation efforts for its strengths and better applicability.

Keywords: Family adaptability; Family cohesion; Family functioning

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ISSN 2521-2192 (Print)

1. Introduction

Family Adaptability and Cohesion Evaluation Scale is one of the self-report instruments used for measuring family functioning particularly in the Circumplex Model of marital and family systems. This model has been built on the principles of family systems theory with particular emphasis to family members' interconnectedness (Kouneski, 2000). It comprises of three concepts for understanding family functioning: cohesion, adaptability and communications (Olson, 2010) whereby cohesion refers to the emotional bonding among family members; adaptability refers to the amount of change in family leadership, relationship roles and rules; and communication is the third dimension that facilitates the cohesion and flexibility dimensions.

FACES, as one of the Circumplex Model's self-report instruments, have series of versions that have been used across historical times. The original version (i.e., FACES-I) was developed in 1978 by David Olson, Richard Bell, and Joyce Portner and ultimately followed by FACES-II and FACES-III (Olson, as cited in Kouneski, 2000). Among the various series of versions, FACES-IV is the latest version designed to assess family cohesion and flexibility which are the two dimensions of the Model of Marital and Family Systems (Olson, 2000; as cited in Olson, 2010).

Olson and Gorall (2006) suggested that the latest version, i.e., FACES-IV differs from the earlier ones in that many different innovations have been integrated into it including the six scales (i.e., two balanced and four unbalanced) that were developed to assess the full dimensions of cohesion and flexibility. Thus, FACES-IV comprises three scales for the cohesion (i.e., Disengaged, Balanced Cohesion, and Enmeshed) and three scales for the flexibility dimension (i.e., Rigid, Balanced Flexibility and Chaotic). Each of the six scales has 7 items in it making a total of 42 items along with other components of the package; i.e., family communication and family satisfaction scales with 20 items in them making a grand total of 62 items in general.

A scale is usually culture and context-sensitive. Its effectiveness may also be influenced by historical times and across variations in generations. For example, family communication scale may not consistently measure what it basically intends to measure in any culture, languages, context, and/or across historical times because of some reasons. One of these reasons can be the fact that patterns of communication that are believed to represent health family functioning tend to differ from culture to culture, context to context, generation to generation, or from historical times to historical times. This implies that although a measure or a scale is standardized, it doesn't mean that it consistently works in all cultures, languages and/or in all contexts.

Despite this fact, little has been done in updating, adapting and/or generally in improving the existing measures. When it particularly comes to FACES-IV, as long as the researchers' level of understanding is concerned, no effort has been made to validate or adapt to Afan Oromo context. So the following question was being addressed: What kinds of psychometric features, validity and reliability does the Afan Oromo version of the FACES-IV have?

In order to address this research question, the main objective has been set to examine the psychometric features, validity and reliability of the FACES-IV questionnaire of the Afan Oromo version for its further adaptation and use for measuring family functioning in this particular context.

2. Research Methods

2.1. Site and Participants

The study site was Sebeta. It is one of the towns in Oromia National Regional State located to the Southwest part of Addis Ababa city at a distance of about 25 kms. Sebeta College of Special Needs Teachers' Education which is one of the thirteen public colleges of teachers' education (TTCs) that educate teachers for primary school levels in the regional state is found in Sebeta town. Concerning participants, 208 students (i.e., 98 males and 110 females) were randomly made to participate in filling the Afan Oromo Version of the FACES-IV questionnaire although only 182 (i.e., 88 males and 94 females) were considered for the final analysis because of attritions and incomplete responses.

These respondents were randomly drawn from a total of 13 sections of 1st and 2nd year classes whose total number was 507 (i.e., 155 year I and 352 year II). Year III were not considered as they were on the practicum fields. The college was being chosen for reasons such as accessibility and it's using Afan Oromo as official language enabling the writers to access participants who were able to understand the actual version and fill properly.

2.2. Instruments

FACES-IV questionnaire was obtained through online search. This version comprises a total of six scales, i.e., three scales for the cohesion dimension (i.e., Disengaged, Balanced Cohesion, Enmeshed) and three scales for the flexibility dimension (i.e., Rigid, Balanced Flexibility, Chaotic) each of which has 7 items in it making a total of 42 items along with other components of the package; i.e., family communication and family satisfaction scales with 20 items in them making a grand total of 62 items in general. In terms of health or unhealthy family functioning, FACES IV Package has been designed to assess two balanced dimensions (cohesion and flexibility) and four unbalanced dimensions (i.e., disengaged, enmeshed, rigid, chaotic) (Turkdogan, Duru, and Balkis, 2018). In addition, family communication and satisfaction scales are said to be validation scales for they are used as criteria to validate the core FACES-IV scales. Regarding the psychometric features of FACES-IV scales, alpha reliability analysis was conducted to examine the internal consistency of the original six scales in FACES-IV by Olson, Gorall and Tiesel (2007). To this end, the Alpha reliability was 0.77 for the "Enmeshed", 0.87 for the "Disengaged", 0.89 for "Balanced cohesion", 0.86 for the "Chaotic", 0.84 for "Balanced flexibility" and 0 .82 for the "Rigid" scale. Olson et al (2007) also confirmed that the ten items in family satisfaction scale had an Alpha reliability of 0 .93.

2.3. Translations and Other Pre-validation Preparations

The primary activity that took place after obtaining the English version of the FACES-IV questionnaire was translating it into Afan Oromo by involving three language professionals who are proficient both in Afan Oromo and English Languages. To this end, the writer of this paper made the experts to exchange the translated documents (i.e., the first draft of Afan Oromo version of the questionnaire) to make corrections and to come-up with common agreed upon statements. A third language professional was requested to re-translate the Afan Oromo version to English; and the re-translated English version was translated back into Afan Oromo for accuracy and validity. Finally, the writer brought all these translation together to further check any points of departure to make the final corrections.

2.4. Analysis

For preliminary assumption tests, various approaches were being used. Thus, test for normality and sampling adequacy were performed using Kolmogorov-Smimove and Shapiro-Wilk test for significance and KMO statistics. The values of KMO statistics ranges from 0-1. Field (2005) suggest that it is only when a KMO Statistics value is > 0.5 that the sample size is said to be adequate. R-Matrix with which the significant values of each correlation matrix is indicated and determinant of the R-Matrix was also computed to check multicolinearity. So, it was checked that whether or not determinant of the R-Matrix was greater than the conventional cut-off-point (i.e., > 0.0001). To this end, the correlations among the individual items are said to be strong enough if the determinant of the R-Matrix is > 0.0001 to suggest that the correlation matrix is factorable. Lastly, test for sphericity was carried out through Bartlett's Test. For factor analysis to work there is a need for some relationships between the variables because in cases where the R-matrix is an identity matrix, all correlation coefficients would be zero indicating that the factor analysis would be inappropriate. So Bartlett's Test should be significant ($\alpha<0.05$) to confirm that the R-Matrix is not an identity matrix and that there are relationships between the variables hoped to be included in the factor analysis (Field, 2005).

For the main analysis, exploratory factor analysis was used to discover the number of factors underlying the items so that those items with lower loadings can be eliminated (Newsom, 2017). Factor extraction was taken with the help of scree plot and Eigen values to determine how many items were needed to represent each of the six FACES scales. Factor with Eigen values > 1 on the scree plot have been selected for being the major factors (items) that constitutes the variable. In factor loading, a value ranging from ±0.30 to ±0.40 was considered to meet the minimum level for interpretation of structure; the one with ±0.50 or greater are considered significant; and ±0.70 are considered indicative of well-defined structure. Acceptable loading values, however, depends on the sample size (Patel, 2016).

Table1. Factor loading values across various sample sizes

Factor loading	0.30	0.35	0.40	0.45	0.50	0.55	0.60	0.65	0.70	0.75
Sample size required for significance	350	250	200	150	120	100	85	70	60	50

With factor analysis and various statistical techniques different aspects of validity were also checked. Hence, while loading outputs and other clues were used as a base for confirmation of construct validity, Cronbach-alpha was used to examine the internal consistency of the Afan Oromo Version of the scales. For convergent and discriminant validity verifications, Pearson Correlation Coefficients were computed. So, the convergent validity of the new version of FACES-IV was checked with the help of the major validation scales-Family Communication and Family Satisfaction Scale. So, the magnitudes and directions of correlations of the health and unhealthy family functioning dimensions of the scales with these validation scales were checked.

Concerning criterion-related validity, some independent variables with theoretical supports in determining states of family functioning was used. Thus, family economic status, family structures/ types and parental marital status were considered. So, One-Way ANOVA was used to determine whether or not significant differences were there as the function of these variables. Finally, content validity was checked using subject matter experts derived from Measurement and Evaluation, TEFL and Developmental Psychology.

3. Results and Discussions

3.1. Preliminary Assumption Tests

Normality of the data distribution: this was presented both statistically and graphically.

Table 2. Summary table of Kolmogorov's and Shapiro's tests of normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
FACES-IV items of Afan Oromo version	.069	182	.034	.986	182	.061

Here, particularly, Shapiro-Wilk Test (n=182, P>0.05) shows that the distribution of data (i.e., Afan Oromo version of FACES-IV) was not significantly different from the normal distribution implying that the data was normally distributed.

Sampling adequacy- Kaiser-Meyer-Olkin measure of sampling adequacy was computed and indicated with KMO summary table as follows.

Table 3. Summary table of KMO tests of sampling adequacy and Bartlett's tests of sphericity/significance of variable relationships/

Kaiser-Meyer-Olkin measure of sampling adequacy.		0.749
Bartlett's test of sphericity	Approx. Chi-Square	10700.025
	df	861
	Sig.	.000

Here, the value of KMO of sampling adequacy was computed to be 0.749 implying that the Afan Oromo version of FACES-IV data fulfills the criteria required for factor analysis. This conclusion is being drawn on the basis of scholars' suggestions that usually recommends a KMO value >0.5 or 0.6 as acceptable one indicating that factor analysis with the data is useful. Bian (2018) suggested that a KMO value that is >0.90 is marvelous; the one with 0.80s is meritorious; the one with 0 .70s is just medium; and the one with < 0.60s is not acceptable. So, KMO value indicates that factor analysis with the data is useful.

Multicolinearity-The determinants of the R-Matrix here were unfortunately observed to be 1.082E-28 which was less than the conventional cut-off point (i.e.,>0.0001) creating doubts on whether or not the correlation matrix will be factorable.

Test for sphericity-Bartlett's test of sphericity tests as observed in table 3 indicates that there were significant relationships among the item (see Table 3). This implies that variables in the FACES-IV were related and hence suitable for structure detection. So the R-matrix was not an identity matrix and there were some relationships between the variables to be included in the analysis. Therefore, as this test was significant ($p<0.001$), factor analysis was appropriate.

3.2. The Main Validations

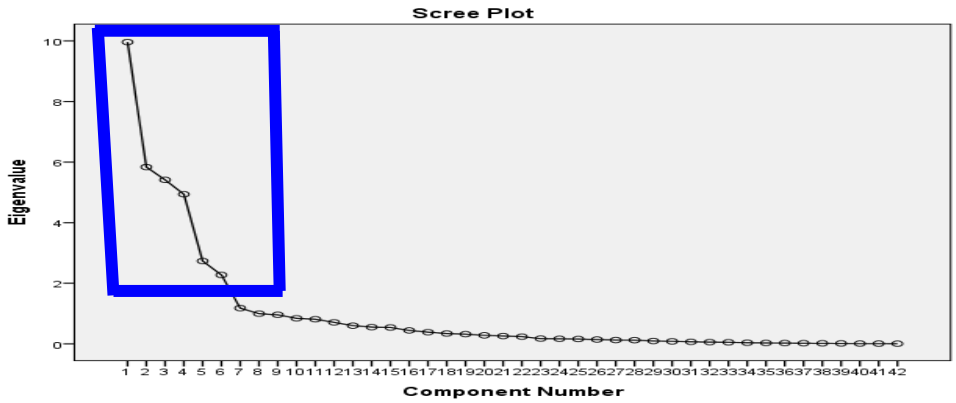
Construct validity-After determining the number of components it was observed that the six extracted components explained nearly 74.18 % of the variability in the original 42 variables.

Table 4. Total variance by each component after determining the number of components

Component	Initial Eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	9.962	23.719	23.719	9.962	23.719	23.719	7.905	18.821	18.821
2	5.837	13.897	37.616	5.837	13.897	37.616	5.839	13.903	32.724
3	5.412	12.887	50.503	5.412	12.887	50.503	5.560	13.238	45.963
4	4.937	11.754	62.257	4.937	11.754	62.257	5.076	12.086	58.048
5	2.734	6.508	68.766	2.734	6.508	68.766	4.269	10.165	68.213
6	2.273	5.412	74.178	2.273	5.412	74.178	2.505	5.965	74.178

Extraction Method: Principal component analysis (PCA).

In the initial analysis with all the 42 items, the scree plot showed seven components with Egenvalue >1. However, the researcher was interested in determining the optimal number of component to be six. Hence, in addition to the identification of the first six factors that explained the majority of the variance in the scales with the total items, the scree plot was also used to determine the optimal number of components/factors. In this case, since it was expected to retain the six factors, six components were considered for further analysis.



In the above results, six factors that explained majority of the variance in the scales with all items were determined implying that there were clues about consistence of the Afan Oromo version and the original English version of the scales from which it was translated. These clues enable us to partly answer the question of construct validity. Similarly, Dooley (2004) suggested that one way of assessing construct validity is through factor analysis; and partial confirmation of this validity is that a test measures the intended constructs called factors. In addition to some clues about construct validity through factor extraction and scree plot sketching, commonalities of variance in the data structure were identified. So, it is true that there is always initial assumption that all variance is commonly equal (i.e., 1) among all items in all scales of the FACES-IV before factor extraction takes place. But, the values observed under "extraction" show the actual values of the common variance obtained after factor extraction. Here, for example, 78% of the variance associated with item 1 was common for all the remaining items in the scale. Likewise, 77.7% of the variance associated with item no 2, 86.9% of the variance associated with item no 3, 91.2% of the variance associated with item no 4, 60.9% of the variance associated with item no 5 are common. And, generally, the average communality (the sum of the values of communality associated with all the 42 items divide by 42) was computed to be 32.333/42, i.e., 0.769. So, the proportion of commonalities among the items in the FACES-IV was good implying that the items had common issues to measure as the whole.

Table 5. Amount of variance associated with each item that was common for all (i.e., commonalities)

Item	Initial	Extraction	Item	Initial	Extraction
Q1	1.000	.780	Q22	1.000	.903
Q2	1.000	.777	Q23	1.000	.268
Q3	1.000	.869	Q24	1.000	.909
Q4	1.000	.912	Q25	1.000	.712
Q5	1.000	.609	Q26	1.000	.741
Q6	1.000	.845	Q27	1.000	.897
Q7	1.000	.830	Q28	1.000	.876
Q8	1.000	.718	Q29	1.000	.851
Q9	1.000	.916	Q30	1.000	.902
Q10	1.000	.514	Q31	1.000	.830
Q11	1.000	.501	Q32	1.000	.801
Q12	1.000	.873	Q33	1.000	.593
Q13	1.000	.819	Q34	1.000	.821
Q14	1.000	.710	Q35	1.000	.745
Q15	1.000	.704	Q36	1.000	.927
Q16	1.000	.432	Q37	1.000	.788
Q17	1.000	.794	Q38	1.000	.571
Q18	1.000	.884	Q39	1.000	.894
Q19	1.000	.698	Q40	1.000	.911
Q20	1.000	.777	Q41	1.000	.891
Q21	1.000	.784	Q42	1.000	.756

Extraction method: Principal Component Analysis

Table 5 reveals that the values of commonalities were nearly fair except in the case of one item, i.e., item no 23 that had only 0.268 implying that only 26.8% of the variance associated with item no 23 was common for the remaining ones. This validation study, therefore, goes in line with the scholars' suggestions that high communality in the principal components indicates that the extracted components represent the variables well (Bian, 2018. In addition to commonalities, factor loading was computed. With the help of the table of component matrix taken from SPSS output, one can observe the weight that each item has contributed/ loaded to the extracted factors/constructs. So, a loading value <0.4 is not considered because it's not significant for consideration according to scholars although variation among them were there in some cases. Some scholars suggest that determination of the cut-off points of loading values that are acceptable should be made based on the sample size. Patel (2016), for instance, suggested that acceptable factor loading value is the one that is > 0.40 if the sample sized is nearly 200. Moreover, it was determined that only the component matrix after rotation should be considered ignoring the one observed before rotation. Because the variation tend to spread more evenly over the components after rotation, the rotated component matrix becomes easier for interpretation than the matrix before rotation (Bian, 2018).

Thus, after factor extraction has taken place, it was observed that six factors that explain the major values of variance in the whole scales were identified. In addition, through factor loading and rotation, it was identified that which item loads on which factor/component. This is because factor loadings, as defined by Patel (2016), are the weight and correlations between each variable and the factor whereby a higher load represents better relevance of an item in defining the factor dimensionality and vice versa. The writer also suggested that factor loading in the range of 0.30-0.40 are considered to meet the minimum level for interpretation of structure; the one with ≥0.50 is considered as practically significant; and 0.70 are considered indicative of well-defined structure.

So as observed below, out of the 42 items, item no 1,7,13,19,25, 31 and 37 had significant and positive values loaded on “Factor-I”; items no 6, 12, 18, 24, 30, 36, and 42 had significant and positive values loaded on “Factor-II”; item no 2, 8, 14, 20, 26, 32 and 38 had a loading values loaded on “Factor-III”; items no 4, 10, 16, 22, 28, 34, and 41 had a significant and positive loading values loaded on “Factor-IV”; items no 3, 9, 15, 21 and 33 had a significant and positive loading values loaded on “Factor-V”; and items no 5, 11, 17, 23 and 34 had a reasonably and positive loading values loaded on “Factor-VI. i.e., “Factor-I” had 7 items, “Factor-II” had 7 items, “Factor-III” had 7 items, “Factor-IV had 7 items, “Factor-V” had 5 items and “Factor-VI’ had observed to have had 5 items. But the remaining items had loading values with less than the required cut-off points (e.g., item no 27, 29, 39 and 41) implying that the new version of the scales were not fully consistent with the original ones in that four items (i.e., of factor-V & IV) had got some limitations in measuring what they intended to & hence required to be reshuffled.

Table 6. Loading values of FACES-IV items after rotation (i.e., rotated component matrix)

Item	Component/factor						Item	Component/factor					
	1	2	3	4	5	6		1	2	3	4	5	6
Q1	.821						Q22				.894		
Q2			.856				Q23						0.424
Q3					.910		Q24		.943				
Q4				.945			Q25	.757					
Q5						.659	Q26			.809			
Q6		.901					Q27						
Q7	.888						Q28				.927		
Q8			.836				Q29						
Q9					.932		Q30		.941				
Q10				.491			Q31	.563					
Q11						.620	Q32			.760			
Q12		.926					Q33					.742	
Q13	.862						Q34				.884		
Q14			.720				Q35						.837
Q15					.764		Q36		.954				
Q16				.584			Q37	.882					
Q17						.844	Q38			.685			
Q18		.934					Q39						
Q19	.816						Q40				.946		
Q20			.866				Q41						
Q21					.831		Q42		.408				

Extraction Method: Principal component analysis

It was observed that the six factors identified through factor extractions and factor loading along with each of the variables/items that positively and significantly loaded to them were nearly consistent with the six scales of the English version of the tool. It was identified that items loaded to factor-I, IV and V represent the family cohesion dimensions; i.e., "balanced cohesion scale", "enmeshed scale", and "disengaged scale". But items loaded to factor-II, III and VI represent the family flexibility dimensions; i.e., "chaotic scale", "balanced flexibly scale" and "rigid scale".

This result strengthens our confidence of the confirmation of construct validity of the Afan Oromo version of the scales. For example, if we look at the factor loadings for all the 42 items on their respective scales, they reveal a fairly even loading pattern with high loadings in most cases. Hence, the average loadings of items in cohesion scales (i.e., "balanced cohesion", "enmeshed", "disengaged" or factor-I, IV and V as observed in Table 6) were 0.798, 0.810, and 0.836 respectively omitting those items with a double loading. And the average loading values of items in flexibility scales (i.e., "balanced", "chaotic" and "rigid" or factor-III, II, and VI as observed) were 0.790, 0.858, and 0.677 respectively.

This implies that construct validity has partly been confirmed because higher factor loading represents better relevance of an item in defining the factors or the constructs dimensionality, structurally and vice versa (Patel, 2016). Dooley (2004: 93) confirms this saying: "...factor analysis identifies how many different constructs (called factors) are being measured by a test items and the extent to which each item of a test is related to ('loaded on' in the jargon of factor analysis) each factor.". Olson (2010), in one of her published articles, also used the loading values of each of the 42 items of FACES-IV scales as additional guarantee for confirmation of construct validity.

Tests for internal consistency-After identification of the weights and correlations between FACES-IV items and determining the scale that the six factors represent the researcher was able to have various numbers of items under the scales. It was determined that two of the cohesion dimensions, i.e., "balanced cohesion" and "enmeshed" had both 7 items in them whereas the "disengaged" dimension had 5 items for 2 items were pending due to some limitations. And, two of the family flexibility dimensions, i.e., "balanced flexibility" and "chaotic") had both 7 items in them whereas the "rigid" dimension had 5 items for 2 items were pending due to some limitations. Hence, it was 38 items of the new scales (i.e., 19 items from both major dimensions) that were considered in determining the internal consistency.

In fact, exploratory factor analysis is used to discover the number of factors underlying the items so that a researcher can eliminate those items with lower factor loadings (Newsom, 2017). It usually employs the process of developing new instruments rather than adoption of the already standardized ones. On the other hands, confirmatory factor analysis is carried out for validation and adoption of the already standardized instruments. However, here, both exploratory and confirmatory analyses were taken. With exploratory factor analysis, it was observed that the new version (i.e., Afan Oromo version of the FACES-IV) was not perfectly consistent with the original English Version of the FACES-IV for some items with the loading values less than the required cut-off points. Hence, only 38 items could be retained out of the original 42 when pending some items with limitations is considered; but all items could be considered when validation, confirmation, and adoptions are the main intentions. However, even though the scale is the latest one, the researcher made data reductions in its adaptation to the new context in focus because "scale may be modified by eliminating items or changing the structure of the measure" in its evaluations and adaptations for the later research purposes (Newsom, 2017: 32). Hence, this had taken place to check whether structural differences were there between the expected and the one observed after data reduction in the process of validations.

Table 7. Internal consistence of the Afan Oromo Version of FACES-IV and validation Scales

	FACES-IV and Validation Scales (Afan Oromo Version)	Cronbach Alpha (α) in cases where all items in FACES-IV scales regardless of their loading values were considered	Alpha values in cases of items with the loading below the required cut-off points (i.e., after reduction) were considered
1	Balanced cohesion	0.923	0.923
2	Disengaged	0.855	0.934
3	Enmeshed	0.841	0.841
4	Balanced flexibility	0.918	0.918
5	Rigid	0.619	0.665
6	Chaotic	0.95	0.95
7	Family Communication	0.97	0.97
8	Family Satisfaction	0.96	0.96

Table 7 shows that alpha coefficients were ranging from 0.60-0.97 implying that internal consistency of the various scales appeared at an acceptable level except for the "rigid scale" that had a value less than expected cut-off- point. Previously, it was found out, as Olson (2000), cited in Turkdogan *et al*. (2018) noted, that Cronbach-alpha coefficient of the original version of FACES-IV was 0.89 for the balanced cohesion, 0.87 for the disengaged, and 0.77 for the enmeshed, 0.84 for the balanced flexibility, 0.82 for the rigid, and 0.86 for the chaotic dimension in the original validation study by the pioneer investigators. In addition, alpha coefficient was 0.90 for the family communication and 0.92 for the satisfaction scale on the original study. So when compared with the original scales the internal consistence of the new version was very fair.

Analysis for convergent and discriminant validity

The convergent and discriminant validity of the Afan Oromo Version of FACES-IV was being checked with the help of validation scales (i.e., Family Communication and Family Satisfaction). Hence, the magnitudes and directions of correlations of the various scales in FACES-IV with these validation scales were checked. So, as can be observed from the following matrix, the two dimensions of health family functioning, i.e., "balanced flexibility" and "balanced cohesion" had statistically significant positive correlation with family communication and family satisfaction. To this end, correlation coefficients that "balanced cohesion" had with communication $(r_{(n=182)}=0.432,\ p<0.01)$ and with that of family satisfaction $(r_{(n=182)}=0.762,\ p<0.01)$ were significant. And correlation coefficients that "balanced flexibility" had with communication $(r_{(n=182)}=0.593,\ p<0.01)$ and with that of family satisfaction $(r_{(n=182)}=0.255,\ p<0.01)$ were significant. Moreover, these two health dimensions of the family functioning (i.e., "balanced flexibility" and "balanced cohesion") had positive correlation with each other $(r_{(n=182)}=0.332,\ p<0.01)$. And, this implies that the convergent validity has been confirmed. Other empirical evidences also showed that the two balanced scales had significant positive correlation with the two validation scales. A study conducted by Olson (2010) revealed that there was a strong positive correlation between the two balanced scales and family satisfaction scale in that balanced cohesion had a correlation coefficient of 0.89 with family satisfaction and balanced flexibility had a correlation coefficient of 0.91 with the scale. With regard to communication, in one validation study conducted by Tsebari (2012), it was confirmed that family communication was the most important tool for achieving a change in the family's cohesion and flexibility toward balanced types. A validation study in which strong positive correlation were observed between perceived family support and family communication ($r\ (n=97) = .65$, $p < .001$) and also family satisfaction ($r\ (n=97) = .65$, $p < .001$) was used as a confirmation of convergent validity by Turkdogan *et al*. (2018).

Table 8. Matrix showing correlation between FACES-IV and validation scales (for convergent/ divergent validity verification)

FACES-IV scales	BC	D	E	BF	R	CH	COM	SAT
Balanced cohesion (BC)	1							
Disengaged (D)	182							
	-.340**	1						
	.000							
ENMASHED (E)	182	182						
	-.098	.024	1					
	.188	.743						
Balanced	182	182	182					
FLEXIBILITY	.332**	.116	.048	1				
(BF)	.000	.120	.519					
RIGID (R)	182	182	182	182				
	.057	-.101	.451**	-.016	1			
	.448	.174	.000	.833				
CHAOTIC (CH)	182	182	182	182	182			
	-.135	.010	-.067	-.102	.071	1		
	.069	.891	.365	.173	.341			
COMMUNICATI	182	182	182	182	182	182		
ON (COM)	.432**	-.118	-.008	.593**	.056	-.173*	1	
	.000	.114	.913	.000	.452	.020		
SATISFACTION	182	182	182	182	182	182	182	
(SAT)	.762**	-.456**	-.060	.255**	.073	-.107	.453**	1
	.000	.000	.419	.001	.328	.150	.000	

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed)

Nevertheless, the two validation scales (i.e., family communication and family satisfaction scales) had negative correlations with the unhealthy dimensions. For instance, "balanced cohesion" had significant negative correlation with "disengaged" *($r_{(n=182)}$=-0.3430, p<0.01)*; and "balanced flexibility" had also negative correlation, although not statistically significant, with these unhealthy dimensions. Positive correlations were observed among some of the unhealthy dimensions of flexibility and cohesion. Hence, one can observe from the above correlation matrix that enmeshed (i.e., of the cohesion dimension) and rigid (i.e., of the flexibility dimension) had a significant positive correlation *($r_{(n=182)}$= 0.451, p<0.01).*

On the other hand, these unhealthy dimensions had negative correlation with family communication and family satisfaction. One can observe from the above matrix that family communication and "chaotic" *($r_{(n=182)}$ =-0.173, p<0.05)* as well as family satisfaction and "disengaged" *($r_{(n=182)}$=-0.456, p<0.01)* had significant negative correlations implying that the discriminant validity has been confirmed. That means, the unhealthy dimensions were discriminated from the health dimensions in that they diverged from or negatively correlated with the third dimensions of the health family functioning scales, i.e., communication and satisfaction scales. Hence, discriminant validity has been confirmed.

A study conducted by Olson (2010) also revealed a similar results in that the two balanced scales of cohesion and flexibility were highly correlated, high negative correlation of balanced cohesion and disengaged, low negative correlation between balanced and enmeshed, positive correlation of the two unbalanced scales, a high negative correlation between balanced flexibility and chaotic, no correlation

between balanced flexibility and no significant correlation between the two unbalanced areas of rigid and chaotic. So, this result implies that the very premises of the Circumplex Model of family functioning in which cohesion and flexibility were combined with the third dimensions have been supported. Balanced levels of cohesion and flexibility were most conducive to healthy family functioning in that they had significant positive correlation with family communication and family satisfaction that portray a health family functioning. Conversely, unbalanced levels were associated with unhealthy family in that they had negative correlations with these indicators of health family functioning scales. Conclusive statement confirming this study has also been forwarded by other scholars (Thomas and Olson, 1993 and 1994, as cited in Olson, 2010).

Tests for criterion-related validity: Three independent variables with various levels were considered as criteria to compare the mean scores on all the six scales of this version as well as the two validations scales (i.e., Communication and Satisfaction Scales). Because marital status of the parents, family type, and family income level are obviously some of the socio-demographic factors affecting family system as suggested by many scholars, the writer has considered these three factors. So, the fact that positive family functioning tend to exist less in families with low economic status just because the economic stress spoils family cohesion, communication and satisfaction (Olson and DeFrain, 2000). It should also be noted that divorce is stressful for many and thus followed by unhealthy relationships among the remaining family members (Lamanna and Riedmann, 1985; Olson and DeFrain, 2000). Moreover, there are usually two biological parents in nuclear family that results in the existence of strong harmony and bonds in such family as discussed by Olson and DeFrain (2000). For these reasons, the use of family marital status (i.e., married/divorced), family types (i.e., nuclear/extended/single), and family economic status as some of the criteria for determining the health of a family functioning (cohesion, flexibility, communication and satisfaction) becomes relevant. Hence, in this case, whether or not there were significant differences in the scores of FACES-IV scales across parental marital status (married, lost either of the parents with death/widowed, divorced), family economic status (High, Medium, Low), family structure (nuclear family, extended family, single-parent family, parentless family) were tested with F-statistics and ANOVA as follows.

Table 9. ANOVA summary table on score differences on FACES-IV scales and validation scales across family economic status (low, medium, high)

FACES-IV scales		Sum of Squares	df	Mean square	F	Sig.
Balanced cohesion	Between groups	3194.932	2	1597.466	120.814	.000
	Within groups	2366.832	179	13.223		
	Total	5561.764	181			
Balanced flexibility	Between groups	227.728	2	113.864	4.035	.019
	Within groups	5051.772	179	28.222		
	Total	5279.500	181			
Family communication	Between groups	812.959	2	406.479	4.108	.018
	Within groups	17711.882	179	98.949		
	Total	18524.841	181			
Family satisfaction	Between groups	9482.866	2	4741.433	64.888	.000
	Within groups	13079.710	179	73.071		
	Total	22562.577	181			
Disengaged	Between groups	103.186	2	51.593	4.911	.008
	Within groups	1880.578	179	10.506		
	Total	1983.764	181			
Enmeshed	Between groups	71.588	2	35.794	.578	.562
	Within groups	11077.714	179	61.887		
	Total	11149.302	181			
Rigid	Between groups	13.635	2	6.818	.412	.663
	Within groups	2963.228	179	16.554		
	Total	2976.863	181			
Chaotic	Between groups	73.074	2	36.537	.766	.466
	Within groups	8534.800	179	47.680		
	Total	8607.874	181			

Table 9 reveals that there were significant differences in the participants' scores on the Afan Oromo version of FACES-IV as the function of family economic status. In this respect, there were significant differences in scores on Balanced Cohesion, Balanced Flexibility, Family Communication and Family Satisfaction *(n=182, p<0.05)* across family economic status.

Even though this result may needs further examination/investigation in some cases, it was almost in line with other findings in that positive family functioning tends to exist less in families with low economic status just because the economic stress spoils family cohesion, communication and satisfaction (Olson and DeFrain, 2000). On the other hand, high familial economic status doesn't predict better family communication, cohesion or satisfaction maybe because of the fact that priorities were given to other business than family issues.

The medium level predicted better states of family functioning than the lower and the higher does. Regarding unhealthy family functioning dimensions, there were no statistically significant differences in the scores, for instance, on "Enmeshed", "Rigid", and "Chaotic" *(n=182, p>0.05).* However, only the "Disengaged" dimension showed differences across various family economic statuses. Therefore, even though, in some cases further investigations are required to justify each of the results revealed in this analysis, it is generally confirmed that the criterion validity of the tool has been confirmed to be fair.

Table 10. ANOVA summary table on score differences on FACES-IV and validation scales across parental marital status

FACES-IV scales		Sum of squares	df	Mean square	F	Sig.
Balanced cohesion	Between groups	3499.515	2	1749.758	151.876	.000
	Within groups	2062.249	179	11.521		
	Total	5561.764	181			
Balanced flexibility	Between groups	395.499	2	197.749	7.248	.001
	Within groups	4884.001	179	27.285		
	Total	5279.500	181			
Family communication	Between groups	1399.257	2	699.629	7.313	.001
	Within groups	17125.584	179	95.674		
	Total	18524.841	181			
Family satisfaction	Between groups	10109.037	2	5054.518	72.651	.000
	Within groups	12453.540	179	69.573		
	Total	22562.577	181			
Disengaged	Between groups	92.615	2	46.307	4.383	.014
	Within groups	1891.149	179	10.565		
	Total	1983.764	181			
Enmeshed	Between groups	103.289	2	51.644	.837	.435
	Within groups	11046.013	179	61.710		
	Total	11149.302	181			
Rigid	Between groups	3.989	2	1.995	.120	.887
	Within groups	2972.873	179	16.608		
	Total	2976.863	181			
Chaotic	Between groups	68.704	2	34.352	.720	.488
	Within groups	8539.169	179	47.705		
	Total	8607.874	181			

As can be observed in Table 10, there were significant differences in the participants' scores on the Afan Oromo Version of FACES-IV as the function of parental marital status. In this respect, for instance, there were statistically significant differences in scores on *Balanced Cohesion, Balanced Flexibility, Family communication and Family satisfaction (n=182, p<0.05)* across parental marital status. Scholars believe that as divorce is stressful for people, it may be followed by unhealthy

interaction among the remaining family members (Lamanna and Riedmann, 1985; Olson and DeFrain, 2000). Hence, here, again the criterion validity has been confirmed.

Regarding family types, ANOVA summary table below reveals that there were significant differences in the participants' scores on the Afan Oromo Version of FACES-IV as the function of family type differences. In this respect, there were significant differences in scores on balanced cohesion, balanced flexibility, family communication and family satisfaction *(n=182, p<0.05)* across marital status. Moreover, differences were observed in an unhealthy dimensions (i.e., "Disengaged") as the function of the differences in family types *(n=182, p<0.05).*

Table 11. ANOVA summary table on score differences on FACES-IV scales and validation scales across family types

FACES-IV scales		Sum of squares	df	Mean square	F	Sig.
Balanced cohesion	Between groups	4593.653	3	1531.218	281.535	.000
	Within groups	968.111	178	5.439		
	Total	5561.764	181			
Balanced flexibility	Between groups	830.542	3	276.847	11.076	.000
	Within groups	4448.958	178	24.994		
	Total	5279.500	181			
Family communication	Between groups	2974.441	3	991.480	11.349	.000
	Within groups	15550.400	178	87.362		
	Total	18524.841	181			
Family satisfaction	Between groups	11722.087	3	3907.362	64.159	.000
	Within groups	10840.490	178	60.902		
	Total	22562.577	181			
Disengaged	Between groups	168.763	3	56.254	5.517	.001
	Within groups	1815.001	178	10.197		
	Total	1983.764	181			
Enmeshed	Between groups	409.468	3	136.489	2.262	.083
	Within groups	10739.834	178	60.336		
	Total	11149.302	181			
Rigid	Between groups	86.133	3	28.711	1.768	.155
	Within groups	2890.730	178	16.240		
	Total	2976.863	181			
Chaotic	Between groups	210.980	3	70.327	1.491	.219
	Within groups	8396.894	178	47.174		
	Total	8607.874	181			

Content validity: Because not all measures have criteria, a researcher has to design mechanisms as to how to bridge this gap. Hence, some scholars like Dooley (2004: 92) said: *"...in the absence of criteria, you can always asses a test's validity by inspecting its content, that is, by judging content validity"*. Content validity, therefore, is nothing but a judgment of how appropriate the items seem to a panel of reviewers who have knowledge of the subject matter (Michael, n.d.). Moreover, as factor analysis was carried out not only for construct validity verification, one could also say something about the other aspects of validity like content validity; i.e., the loading part of analysis also gives clues about content validity. Dooley (2004), for instance, affirms that a researcher could assess the content covered by the items that load on various factors implying that items with strong correlations with each other and those commonly measuring a certain factor/construct tend to load on their respective factor enabling the researcher to partly confirm the content validity. So, if we look at the

factor loadings for all the 42 items of the Afan Oromo Version on their respective scales, they reveal a fairly even loading pattern with high loadings in most cases enabling us confirm not only construct validity but also the content validity.

4. Conclusions and Recommendations

In this study, the proportions of the variance associated with each of the items in the newly adapted version that were common for the remaining ones were fairly good. It has also to be noted that confirmations for various validities that required different efforts and procedures in order to have a more valid tool in measuring family adaptability and cohesion; for instance, enabled us verify the construct validity through weighing the factor loading. Moreover, as the nature of family adaptability and cohesion as well as family communication and satisfaction depend on some familial factors such as economic status, family structures and marital status, it is possible to verify the criterion-related validity of this tool. More importantly, because expert judgments and loading values of items, as in the case of this validation, enables to check the content validity, practitioners may consider them for their subsequent validation works.

It should also be noted that there are many other aspects of validity other than the ones that were being addressed here implying that even though the researcher tested them all for some constraints, only the main ones were considered. But for validation of a scale to be a complete one, every possible aspect of validations maybe considered. Hence, this is the first attempt ever made in adapting these family functioning scales into Afan Oromo language and context as long as the writer's level of information is concerned. For this reason, this version may not be as perfect as expected but may lay a foundation for the preceding attempts implying that those successive researchers are required to refine and validate in all the possible ways, and re-adapt it.

In fact, exploratory factor analysis is used in the process of developing new instruments rather than adaptation of the already standardized ones whereas confirmatory factor analysis is carried out just for validation and adaptation of the already standardized instruments. Hence, as this study was mainly dealing with the latest and already standardized scales (i.e., FACES-IV), one may mistakenly think that data reduction may not be inevitable other than validations and adaptations with negligible modification. On the other hand, there were some situations that forced the researcher to apply the data reduction procedures. For one thing scales are culture-sensitive in that they are not perfect in all situations implying that they need modification. On top of that, there was a need for not only validation and adaptation of the existing scales but also demonstrations of the whole process that may include analysis for data reduction. Because of this dilemma, the researchers thought that it was better to consider both options: i.e., demonstrations of the data reduction process in which we had a new version with some items missing and validation in which the items were retained with some modifications. On the other hand, on the way to confirm criterion-related validity, the researcher observed that there were unexpected results, although many of the findings were in line with theories, literature and findings and enabled us confirm the criteria-related validity. Such observations, which are important but beyond the scope of this study, have implications for subsequent family researches.

Finally, scales are not always effective for they are culture and context-sensitive. On the other hand, researchers usually prefer to use the already existing ones rather than sacrificing times, resources, energies in exhaustively validating and adapting. So, although a readily accessible version saves them from time and resource wastages researchers still need to refine, validate and readapt them to have a more standard ones. Particularly to those researchers who will use the actual Afan Oromo version of the FACES-IV attached here, it is recommended that they need to re-examine at least the four items with limitations in the "disengaged" scale of the family cohesion and the "rigid" scale of the family flexibility dimension.

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Appendix-A

FACES IV: Questionnaire

Directions to family members

- All family members over the age of 12 can complete FACES IV.
- Family members should complete the instrument independently, not consulting or discussing their responses until they have been completed.

Using the 5-point Likert scale provide below, please indicate the degree to which you agree or disagree with each statement about yourself.

1	2	3	4	5
Strongly disagree	Generally disagree	Undecided	Generally agree	Strongly agree

No.	Items	Rating				
		1	2	3	4	5
1.	Family members are involved in each other's lives.	1	2	3	4	5
2.	Our family tries new ways of dealing with problems.	1	2	3	4	5
3.	We get along better with people outside our family than inside.	1	2	3	4	5
4.	We spend too much time together.	1	2	3	4	5
5.	There are strict consequences for breaking the rules in our family.	1	2	3	4	5
6.	We never seem to get organized in our family.	1	2	3	4	5
7.	Family members feel very close to each other.	1	2	3	4	5
8.	Parents equally share leadership in our family.	1	2	3	4	5
9.	Family members seem to avoid contact with each other when at home.	1	2	3	4	5
10.	Family members feel pressured to spend most free time together.	1	2	3	4	5
11.	There are clear consequences when a family member does something wrong.	1	2	3	4	5
12.	It is hard to know who the leader is in our family.	1	2	3	4	5
13.	Family members are supportive of each other during difficult times.	1	2	3	4	5
14.	Discipline is fair in our family.	1	2	3	4	5
15.	Family members know very little about the friends of other family members.	1	2	3	4	5
16.	Family members are too dependent on each other.	1	2	3	4	5
17.	Our family has a rule for almost every possible situation.	1	2	3	4	5
18.	Things do not get done in our family.	1	2	3	4	5
19.	Family members consult other family members on important decisions.	1	2	3	4	5
20.	My family is able to adjust to change when necessary.	1	2	3	4	5
21.	Family members are on their own when there is a problem to be solved.	1	2	3	4	5
22.	Family members have little need for friends outside the family.	1	2	3	4	5
23.	Our family is highly organized	1	2	3	4	5
24.	It is unclear who is responsible for things (chores, activities) in our	1	2	3	4	5
25.	Family members like to spend some of their free time with each other.	1	2	3	4	5
26.	We shift household responsibilities from person to person.	1	2	3	4	5
27.	Our family seldom does things together.	1	2	3	4	5
28.	We feel too connected to each other.	1	2	3	4	5
29.	Our family becomes frustrated when there is a change in plans or routines.	1	2	3	4	5
30.	There is no leadership in our family.	1	2	3	4	5
31.	Although family members have individual interests, they still participate in family activities.	1	2	3	4	5
32.	We have clear rules and roles in our family.	1	2	3	4	5
33.	Family members seldom depend on each other.	1	2	3	4	5
34.	We resent family members doing things outside the family.	1	2	3	4	5
35.	It is important to follow the rules in our family.	1	2	3	4	5
36.	Our family has a hard time keeping track of who does various household tasks.	1	2	3	4	5
37.	Our family has a good balance of separateness and closeness.	1	2	3	4	5

38.	When family problems arise, we compromise.	1	2	3	4	5
39.	Family members mainly operate independently.	1	2	3	4	5
40.	Family members feel guilty if they want to spend time away from the family.	1	2	3	4	5
41.	Once a decision is made, it is very difficult to modify that decision.	1	2	3	4	5
42.	Our family feels hectic and disorganized.	1	2	3	4	5
43.	Family members are satisfied with how they communicate with each other.	1	2	3	4	5
44.	Family members are very good listeners.	1	2	3	4	5
45.	Family members express affection to each other.	1	2	3	4	5
46.	Family members are able to ask each other for what they want.	1	2	3	4	5
47.	Family members can calmly discuss problems with each other.	1	2	3	4	5
48.	Family members discuss their ideas and beliefs with each other.	1	2	3	4	5
49.	When family members ask questions of each other, they get honest answers.	1	2	3	4	5
50.	Family members try to understand each other's feelings.	1	2	3	4	5
51.	When angry, family members seldom say negative things about each other.	1	2	3	4	5
52.	Family members express their true feelings to each other.	1	2	3	4	5
53.	The degree of closeness between family members.	1	2	3	4	5
54.	Your family's ability to cope with stress.	1	2	3	4	5
55.	Your family's ability to be flexible.	1	2	3	4	5
56.	Your family's ability to share positive experiences.	1	2	3	4	5
57.	The quality of communication between family members.	1	2	3	4	5
58.	Your family's ability to solve conflicts	1	2	3	4	5
59.	The amount of time you spend together as a family.	1	2	3	4	5
60.	The way problems are discussed.	1	2	3	4	5
61.	The fairness of criticism in your family.	1	2	3	4	5
62.	Family member's concern for each other	1	2	3	4	5

Appendix-B (Afan Oromo version of FACES-IV)
Hanga-sadarkaa madaallii dadacha'inaafi walitti-dhiheenya/maxxana/ curaa maatii
(Family adaptability and cohesion evaluation scales/FACES-IV)
Kallattii/qajeelfama waliigalaa miseensota maatiif

- Bar-gaaffii kana miseensi maatii hundi kanneen umurii 12 fi ol ta'an guutuu danda'u.
- Miseensi maatii gaaffilee kana yemmuu guutan dhuunfaa dhuunfaan ofdanda'anii malee walgaggaafatanii yookan waliin mari'atanii akka ta'uu hinqabne haahubatamu

1	2	3	4	5
Cimseen morma	Akka waliigalaatti nan morma	Murteessuu hindanda'u	Akka waliigalaatti ittin waaliigala	Cimseen itti waliigala

T.L.	Gaaffilee/Himoota	Sadarkeeffama (Rating)				
1.	Miseensotni maatii dhimmoota/jiruufi jireenya/ walii keessatti ni hirmaatu	1	2	3	4	5
2.	Maatiin keenya tooftaalee rakkoo furuu haarawaatti fayyadamuuf yaalii nigodhu.	1	2	3	4	5
3.	Namoota miseensota maatii keenyaa ta'an caalaa warreen miseensota matii hintaane waliin walitti dhiheenya qabna	1	2	3	4	5
4.	Maatiin keenya yeroo dheeraaf waliin tura/waliin dabarsa	1	2	3	4	5
5.	Maatii keenya keessatti seera cabe tokkoof adabbiin cimaafi siruma dhaabbataa ta'etu jira	1	2	3	4	5
6.	Maatii keenya keessatti qindoomina waan qabnu hinfakkaatu	1	2	3	4	5
7.	Miseensotni maatii keenyaa baay'ee walitti akka siqan/akka dhiyaatantu itti dhagahama; ykn akkasitti of-hubatu/of-fudhatu.	1	2	3	4	5
8.	Abbaa fi haati keenya ittigaafatamummaa geggeessummaa maatii walqixa qooddatu	1	2	3	4	5
9.	Miseensonni maatii keenyaa manatti walitti dhiheenya/dhihaachuu kan	1	2	3	4	5

	hinfeene fakkaatu					
10.	Maatiin keenyaa yeroo boqonnaasaanii hedduu akka waliin dabarsuuf dirqisiifamaniitti/dhiibamanitti yaadu.	1	2	3	4	5
11.	Miseensa maatii waan ta'e dogongoreef/balleesseef/ gatiin/tarkaanfiin fudhatamu ifaa ta'ee kaa'ameera.	1	2	3	4	5
12.	Maatii keenya keessatti geggeessaan eenyuun akka ta'eyyuu hubachuuf nama rakkisa	1	2	3	4	5
13.	Yemmuu rakkoon mudatu miseensonni maatii waldeggeru	1	2	3	4	5
14.	Maatii keenya keessatti haalli naamusaa hanga tokko gaariidha.	1	2	3	4	5
15.	Maatiin hiriyyoota miseensota maatii kanbiraa ilaalchisee hubannoo baayyee gadaanaa ta'e qabu	1	2	3	4	5
16.	Miseesnsotni maatii miira walirratti irkachuu hedduu qabu	1	2	3	4	5
17.	Maatiin keenya dhimmoota uumamuu danda'an hundaaf seera mataa ofii kaa'ee jira	1	2	3	4	5
18.	Maatii keenya keessatti homtuu hojjetamee/raawwatamee hinmula'tu	1	2	3	4	5
19.	Maatiin keenyaa murteewwan barbaachisoorratti miseensota maatii kanbiraa mariissisa	1	2	3	4	5
20.	Maatiin kiyya yemmuu barbaachisaa ta'ee argametti jijjiirama harawaa tokkotti of-madaqsuu nidanda'a	1	2	3	4	5
21.	Rakkoowwan furamaata barbaadan yemmuu uumamanitti miseensonni maatii dhuunfaa dhuunfaadhuma ofiitiin socho'u	1	2	3	4	5
22.	Miseensotni maatii hiriyyoota miseensa maatiinitti hidhaachuuf fedhii baay'ee gadaanaa qabu	1	2	3	4	5
23.	Maatiin keenya baay'ee baay'ee qindaawaadha	1	2	3	4	5
24.	Maatii keenya keessatti wantoota ykn dalagaalee adda addaatiif eenyu ittigaafatamummaa fudhachuu akka qabu ifaa miti	1	2	3	4	5
25.	Miseensotni maatii yeroo bilisaa/boqonnaasaanii keessaa hanga ta'e waliin dabarsuu jaallatu	1	2	3	4	5
26.	Ittigaafatamummaa manaa miseensa maatii tokkorraa garabiraatti ni daddabarsina	1	2	3	4	5
27.	Maatiin keenya darbee darbee qofa waliin hojjetta	1	2	3	4	5
28.	Baay'ee walitti akka dhiyaannutti/hidhannetti of-ilaalla/akkasanatti nutti dhagahama/	1	2	3	4	5
29.	Maatiin keenya karoora ykn haala dalagaalee mana keessaa ilaalchisee yemmuu jijjiiramni ta'e uumamu ni mufata/ni rifata/haamilee waakkata.	1	2	3	4	5
30.	Maatii keenya keessa geggeessummaan/geggeessaan hinjiru	1	2	3	4	5
31.	Tokkoo tokkoon miseensota maatii fedhii dhuunfaa ofii yoo qabaatanillee, garuu dalagaalee manaa keessatti qooda nifudhatu.	1	2	3	4	5
32.	Maatii keenya keessatti seeraafi gahee ifa ta'e qabna	1	2	3	4	5
33.	Miseensotni maatii darbee darbee qofa malee walirratti hin irkatan	1	2	3	4	5
34.	Dalagaa manaa/maatiin alatti miseensi maatii tokko bahee akka hojjetuuf haala ni mijeessina	1	2	3	4	5
35.	Maatii keenya keessatti seerota kaa'aamanii jiran hordofuun barbaachisaadha	1	2	3	4	5
36.	Eenyu maal maalfaa akka dalagu ilaalchisee hundinuu toora qabatee akka adeemu gochuurratti maatiin keenya rakkoo qaba	1	2	3	4	5
37.	Maatiin keenya haala walitti-siqinsaa fi addaan bahumsaa walmadaalaa ta'e/madalliisaa eeggatte/ qaba	1	2	3	4	5
38.	Rakkoon maatii gidduutti yemmuu uumamu haala walmadaalaa ta'een waliin hiikna	1	2	3	4	5
39.	Miseensotni maatii qofa qofaa (mataa mataa ofiitiin) socho'u	1	2	3	4	5
40.	Maatiirraa fagaatanii yeroo ofii dabarsuu yemmuu barbaadanitti miseensotni maatii dhimma kana yaaduu ofiittillee akka dogongoranitti of-fudhachuudhaan gaabbu/dhiphatu	1	2	3	4	5
41.	Murteen tokko erga kennameen booda, murtocha jijjiiruun ykn	1	2	3	4	5

	fooyyessuun baay'ee ulfaataadha maatii keenya keessatti					
42.	Maatiin keenya waliindhahamummaa/burjaaja'ummaa fi qindoomina dhabuutu ittidhagahama	1	2	3	4	5
43.	Miseensotni maatii haala walitti-dhufeenya/quunnamtii isaan gidduu jiru ilaalchisee gammachuu/quufinsa/ qabu	1	2	3	4	5
44.	Miseensotni maatii dandeetti waldhaggeeffachuu olaanaa qabu	1	2	3	4	5
45.	Miseensotni maatii jaalala waliif qaban ibsachuu nidanda'u	1	2	3	4	5
46.	Miseensotni maatii wanta isaan barbaachisu tokko walgaafachuu danda'u	1	2	3	4	5
47.	Miseensotni maatii rakkoo tokkorratti tasgabbiidhaan waliin mari'achuu danda'u	1	2	3	4	5
48.	Miseensotni maatii yaadaafi amantaa ofiirratti waliin mari'atu	1	2	3	4	5
49.	Miseensotni maatii yemmuu wanta ta'e walgaafatan deebii haqaa/deebii qajeelaa/ ta'e walirraa argatu	1	2	3	4	5
50.	Miseensotni maatii fedhii/miira walii waliisaani hubachuuf yaalii taassisu	1	2	3	4	5
51.	Yemmuu aaranitti, miseensotni maatii waa'ee walii wanta hintaane hinkaasan/hinjedhan	1	2	3	4	5
52.	Miseensotni maatii fedhii fi miira ofii isa kessoofi dhugaa waliif ibsu	1	2	3	4	5
53.	Walitti-siqeenya miseensota maatii gidduu jiru	1	2	3	4	5
54.	Dhiphina dandamachuurratti dandeettii maatiin kee qaban	1	2	3	4	5
55.	Dandeettii dadacha'uu/waanta'e fofooyyessuu/maatiin kee wanta tokko (gocha, tarkaanfii, murtee) ilaalchisee qaban	1	2	3	4	5
56.	Muuxannoowwan gaggaarii waliif qooduurratti dandeettii maatiin kankee qaban	1	2	3	4	5
57.	Qulqullina haalli quunnamtii maatii gidduutti raawwatamu qabu	1	2	3	4	5
58.	Walitti-bu'insa hiikuurratti dandeettii maatiin kee qabu	1	2	3	4	5
59.	Dheerina yeroo miseensotni maatii akka maatiitti waliin dabarsan	1	2	3	4	5
60.	Haala rakkoorratti mari'annaa maatichaa	1	2	3	4	5
61.	Haalli walceepha'uu maatii walmadaalaa/gaarii ta'uu	1	2	3	4	5
62.	Haala waliif quuqamuu/yaaduu miseensota maatii	1	2	3	4	5