

Validity and reliability of the Tibetan version of s-EMBU for measuring parenting styles

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Abstract: Parenting style experienced during childhood has profound effects on children's futures. Scales developed in other countries have never been validated in the Tibetan context. The present study aimed to examine the construct validity and reliability of a Tibetan translation of the 23-item short form of the Egnä Minnen Beträffande Uppfostran [One's Memories of Upbringing] (s-EMBU) and to test the correlation between the parenting styles of fathers and mothers. A cross-sectional study was conducted in a sample of 847 students aged 12–21 years from Lhasa, Tibet, during September and October 2015 with a participation rate of 97.7%. The Tibetan translation of self-completed s-EMBU was administered. Confirmatory factor analysis was employed to test the scale's validity on the first half of the sample and was then cross-validated with the second half of the sample. The final model consisted of six factors: three (rejection, emotional warmth, and overprotection) for each parent, equality constrained on factor loadings, factor correlations, and error variance between father and mother. Father–mother correlation coefficients ranged from 0.81 to 0.86, and the level of consistency ranged from 0.62 to 0.82. Thus, the slightly modified s-EMBU is suitable for use in the Tibetan culture where both the father and the mother have consistent parenting styles.

Keywords: Tibetan, parenting style, s-EMBU, validity, reliability, Egnä Minnen Beträffande Uppfostran

Background

Parenting style reflects parents' attitudes toward their children which are then communicated to them, and the emotional climate in which these attitudes are expressed. Negative parenting style is one cause of early maladaptive schemas which can increase the risk of emotional problems such as anxiety and depression.^{1–5} Parenting style also has profound effects on cognitive outcomes reflected by academic achievement.^{6–9} Over the past 50 years, there have been a number of theories about the dimensions of parenting style. For example, Barber described a dimension of parental psychological control.¹⁰

Parenting style is known to be culturally dependent. Loter found distinct parenting styles of mothers among three ethnic groups in Germany.¹¹ German mothers had a more permissive style, Vietnamese mothers displayed a more authoritarian style, whereas the prevailing parenting style for Turkish mothers was neglectful. In another study conducted in the US and the People's Republic of China, Chinese parents tended to be more controlling than their Western counterparts.¹²

In the People's Republic of China, Tibetans are an ethnic minority group with a distinct culture, and most live in a relatively remote area with little social competition. Parents are relatively calm and communicative and rarely hit their children.¹³ Although there have been a few studies looking at parenting styles of Tibetans, the scales were in Chinese or without validation.^{14,15} The use of these scales cannot overcome the cultural barriers.

The Egnä Minnen Beträffande Uppfostran [One's Memories of Upbringing] (EMBU) developed by Perris et al¹⁶ in 1980 is among the most frequently used parenting style assessment scales.¹⁷ Originally, EMBU had 81 items,¹⁸ but the more commonly used short form (s-EMBU) has 23 items,^{17,19–21} which has been proven to be practical in adults, adolescents, and psychiatric patients.^{17,21,22}

Agreement in parenting styles of the father and mother was shown to contribute to the social competence of children.^{23–27} Thus, correlation between the parenting styles of the father and mother was also tested in our study.

Our study objectives were to examine the construct validity and reliability of a Tibetan translation of the s-EMBU and to test the correlation between the parenting styles of father and mother.

Methods

Study design and setting

This cross-sectional study was conducted in Lhasa, the capital city of Tibet Autonomous Region of China, during September and October 2015. In the 2010 National census, the population of Lhasa was ~559,000, of which 76% were Tibetans. To increase the variation of age, the subjects were recruited from one middle school, one high school, and one university, all of which were public schools.

Sample size and sampling

To yield a stable factor solution in factor analysis, a sample of at least 300 is generally required.²⁸ To validate and cross-validate the s-EMBU using confirmatory factor analysis (CFA) on two split halves of the data set, a sample size of at least 600 was required. Assuming a nonresponse rate of 25%, the sample size was increased to 800.

The detailed subject recruitment procedure is summarized in Figure 1. Classes were chosen by the schools based on their readiness to participate. Inclusion criterion for the students was being Tibetan adolescents. Orphans and those with mental problems were excluded from the study. Of 871 students

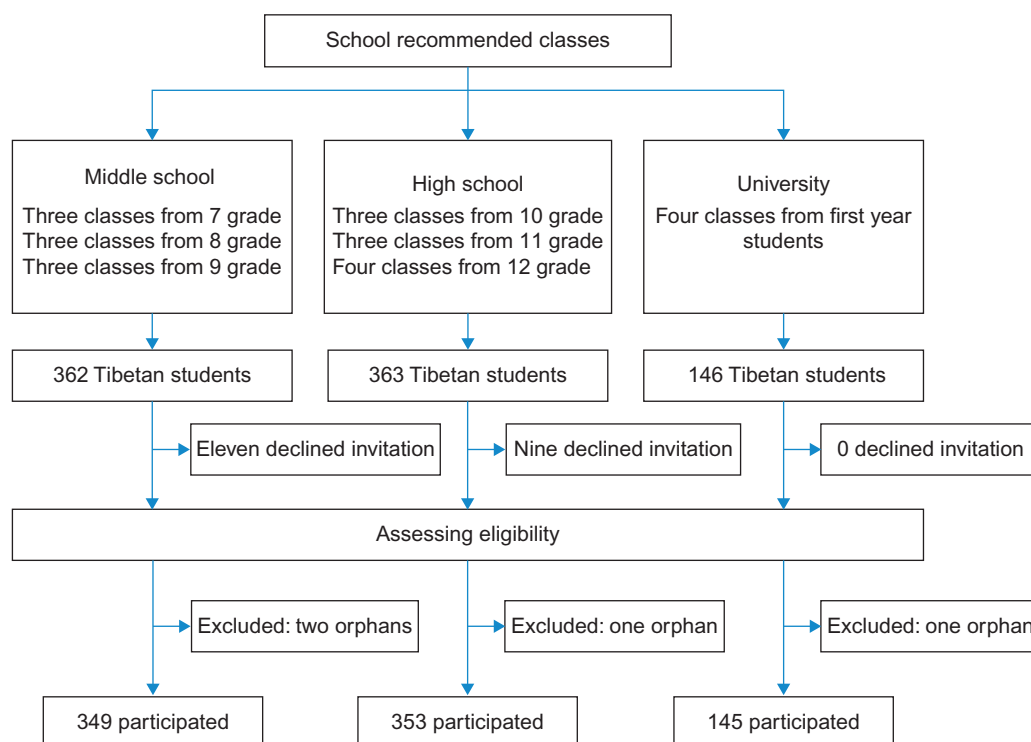


Figure 1 Consort diagram of the subject recruitment.

invited, 20 refused (response rate =97.7%) to participate in the study. Unwillingness in releasing certain personal information was the main reason for nonparticipation. After excluding four orphans, 847 Tibetan adolescents voluntarily participated in the study and no payment was given for participation.

Instruments

The original s-EMBU scale^{20,21} has been used to assess three dimensions of parenting style, including rejection (seven items), emotional warmth (six items), and overprotection (ten items). Rejection is characterized by a critical and judgmental approach to parenting. Emotional warmth is shown through parenting attitudes of acceptance, support, and value; whereas, overprotection is characterized by being fearful for a child's safety and having a high degree of control over them.

The scale includes father and mother forms with 23 items in each form. The items are scored on a four-point Likert scale (1: never; 2: yes, but seldom; 3: yes, often; 4: yes, always). The items of the original s-EMBU scale were randomly mixed and for the purposes of this study, the items were named as RF1_1-RF7_21, EF1_2-EF6_23, and OF1_3-OF10_22 for the father's domain of rejection, emotional warmth, and overprotection, respectively. The mother's domain of rejection, emotional warmth, and overprotection were renamed as RM1_1-RM7_21, EM1_2-EM6_23, and OM1_3-OM10_22, respectively. The corresponding meaning of all items in the original questionnaire is described in Table 1.

Procedures

The present study was approved by the Ethics Committee of the Faculty of Medicine, Prince of Songkla University, Hat Yai, Songkhla Province, Thailand (reference number: 57-187-18-5) before the research was conducted.

The English version of the s-EMBU was translated into the Tibetan language by one expert and back translated by another expert. After comparison, dissimilarities between the original English version and the back-translated English version were resolved by a third expert. All these three experts were Tibetans residing in Tibet Autonomous Region and had studied in an English speaking county for more than 5 years. The scale was further pretested on ten students from Tibet University whose opinions were incorporated into the final version.

For the students aged under 18 years, permission to be enrolled in the study was obtained from the student's parents and school authorities. Otherwise, the permission was obtained by written informed consent from participants. The

Table 1 Names of the 23 items in the Tibetan version s-EMBU and corresponding items from original questionnaire

Domain in Tibetan version	Items in Tibetan translation		Items from original scale	
	Father	Mother	Item number	Brief meaning
Rejection	RF1_1	RM1_1	1	Angry
	RF2_4	RM2_4	4	Corporal punishment
	RF3_7	RM3_7	7	Criticize
	RF4_13	RM4_13	13	Scapegoat
	RF5_15	RM5_15	15	Prefer siblings
	RF6_16	RM6_16	16	Engender feeling of shame
	RF7_21	RM7_21	21	Punishment for trifles
Emotional warmth	EF1_2	EM1_2	2	Praise
	EF2_6	EM2_6	6	Make life stimulating
	EF3_12	EM3_12	12	Comfort
	EF4_14	EM4_14	14	Like me
	EF5_19	EM5_19	19	Warmth
	EF6_23	EM6_23	23	Proud
Overprotection	OF4_9	OM4_9	9	Spur me
	OF1_3	OM1_3	3	Worry
	OF2_5	OM2_5	5	Account to parents
	OF3_8	OM3_8	8	Forbid doing something
	OF5_10	OM5_10	10	Guilt engendering
	OF6_11	OM6_11	11	Anxiety
	OF7_17	OM7_17	17	No freedom
	OF8_18	OM8_18	18	Interfere
	OF9_20	OM9_20	20	Put decisive limits
	OF10_22	OM10_22	22	Decides on clothing

Abbreviation: s-EMBU, short form of the Egna Minnen Beträffande Uppfostran [One's Memories of Upbringing].

participants completed the s-EMBU (Tibetan version) and the questionnaire containing items on sociodemographic characteristics in their classrooms with necessary facilitation by a research assistant.

Analysis

The data set was randomly split into two groups of almost equal size (424:423). Since a three-factor structure of s-EMBU had already been established from a number of countries and cultures, CFA was employed to test the validity of the three-factor structure for each parent in the first data set and refined to obtain the most appropriate model. This model was then tested for fitness with the second half of the data set. In CFA, a maximum likelihood estimation method was used and the covariance matrix was analyzed to assess the fit of the model. LISREL version 8.8 was used to do the factor analysis and R version 3.2.2 was used for all other statistical analyses.

The following measures and cut points were employed to assess the fit of the CFA models: root mean square error of approximation (RMSEA) <0.05 (good fit), <0.06 (acceptable);^{29,30} standardized root mean square residual (SRMR) <0.08 (good fit);^{29,30} comparative fit index (CFI) ≥ 0.90 (acceptable), ≥ 0.95 (good fit);^{29,30} and Tucker–Lewis index ≥ 0.90 (acceptable), ≥ 0.95 (good fit).^{29,30} In terms of factor loadings, the generally accepted cut point of 0.3, indicating medium loading, was used to include the items from the CFA.²⁹ A Cronbach's alpha coefficient, which is used to determine the internal consistencies of subscales, higher than 0.6 is considered acceptable.³¹

A two-factor model with one factor for each parent, which indicates that all items in each of the parent's forms represent only one domain, was fitted first. The main model was a six-factor model with three factors representing three parts for the father's parenting style and another three factors for the mother's parenting style. Previous studies reported findings on cross-loadings of item OF4_9/OM4_9 on emotional warmth and overprotection.^{19,21} These cross-loadings were also specified in the tested models. Since the items in the father and mother forms were identical and answered by the same participants, the covariance between residuals of the same item in father and mother forms was specified in all computations.

The initial main model was computed with different loadings for the father and mother. It was then simplified with constraints allowing parents to have the same loadings, same correlation coefficient between factors, and same variance in the error. To compare the nested models with and without equality constraints of factors loadings, factor correlations, and error variance in father and mother, the change in CFI (Δ CFI) <0.01 was used to identify the most efficient model.²⁹

Results

Demographic characteristics

The detailed characteristics of the students, their parents, and their families are presented in Table 2. The age of students ranged from 12.2 to 20.8 years (median = 15.9, interquartile range = 14.3–17.8), and females predominated the sample (53.0%). Regarding the education level of parents, around three-quarters of the mothers and two-thirds of the fathers had never been to school, or had attended primary school only.

Construct validity of the s-EMBU

There were no significant differences between the two split data sets with respect to the children's age and sex and the marital status and education level of parents.

Table 2 Sociodemographic characteristics of students and their parents

Variables	Frequency	Percentage (%)
Sex		
Male	398	47.0
Female	449	53.0
Age (years)		
12–14	321	37.9
15–17	358	42.3
18–21	168	19.8
Marital status of parents		
Married	772	91.1
Divorced	75	8.9
Education level of mother		
Never been to school	320	37.8
Primary school	311	36.7
Middle school	102	12
High school and above	114	13.5
Education level of father		
Never been to school	197	23.3
Primary school	344	40.6
Middle school	152	17.9
High school and above	154	18.2

Table 3 summarizes the results of model selection. The null model with two factors (Model 1, one factor for each parent) was not valid by any criteria. Model 2 followed the methodology proposed by Arrindell et al,²¹ that is, containing three factors for each parent, with a cross-loading of OF4_9/OM4_9 on emotional warmth and overprotection. This model fit the data well except that loadings for OF7_17/OM7_17 and OF4_9/OM4_9 on overprotection were low (<0.2). Model 3 was an improvement over Model 2, where the low loading items and path of OF4_9/OM4_9 on overprotection were removed. This improvement was evidenced by a slight increase in CFI and TLI. The good fit of Model 3 meant that the number of factors in the father and mother forms were the same. Model 4 was a further improvement over Model 3, where constraints on the factor loadings for the father and mother were equal, and the fit was acceptable. The fit of Model 4 was similar to Model 3 (Δ CFI = 0.006). The equality of factor loadings in the father and mother forms denoted that the children perceived the parenting styles of their fathers and mothers in the same way. Model 5 was a further refinement of Model 4, where equal factor correlations were allowed between the mother and father with a minor reduction in CFI. In Model 6, for the aforementioned reason, the error variance of items was constrained to be equal and the model was still acceptable with Δ CFI = 0.001. The equal error variance between father and mother indicates that the reliability of the two forms is similar. Although Model 6

Table 3 Results from CFA of the s-EMBU on the first random subset of records

Model number	Number of factors	Number of items	Model description	χ^2	df	RMSEA (90% CI)	CFI	TLI	SRMR
0	0	23	Null model	15,654	1,035	–	–	–	–
1	2	23	One factor for each parent	4,177	965	0.086 (0.084–0.089)	0.780	0.764	0.105
2	6	23	Three factors for each parent with cross-loadings of OF4_9/OM4_9 on emotional warmth and overprotection according to Arrindell et al ²¹	1,603	948	0.039 (0.036–0.043)	0.955	0.951	0.064
3	6	22	Model 2 with OR7_17/OM7_17 removed and the path from OF4_13/OM4_13 to overprotection deleted as loadings were <0.2	1,482	865	0.040 (0.037–0.044)	0.957	0.953	0.066
4	6	22	Model 3 with the equality constraints of 22 factor loadings of items on parenting styles of father and mother	1,593	887	0.042 (0.039–0.046)	0.951	0.948	0.072
5	6	22	Model 4 with the invariance of factor correlation (correlation between RF and EF = that between RM and EM, that between RF and OF = that between RM and OM, and that between EF and OF = that between EM and OM)	1,608	890	0.043 (0.039–0.046)	0.950	0.947	0.073
6	6	22	Model 5 with equality constraints of 22 error variance of items on parenting styles of father and mother	1,647	912	0.043 (0.039–0.046)	0.949	0.947	0.074

Abbreviations: df, degrees of freedom; RMSEA, root mean square error of approximation; CFI, comparative fit index; TLI, Tucker–Lewis index; SRMR, standardized root mean square residual; CI, confidence interval; s-EMBU, short form of the Egnä Minnen Beträffande Uppfostran [One's Memories of Upbringing]; CFA, confirmatory factor analysis; RF, father rejection; RM, mother rejection; EF, father emotional warmth; EM, mother emotional warmth; OF, father overprotection; OM, mother overprotection.

included the fewest number of parameters, it showed only a small change in CFI, and thus was chosen as the final model. Fitting the model to the second half of the data set gave an acceptable fit – RMSEA (90% confidence interval) of 0.44 (0.041–0.048), SRMR of 0.074, Tucker–Lewis index of 0.940, and CFI of 0.942.

A path diagram of Model 6 with equality constraints on factor loadings, factor correlation, and error variance is shown in Figure 2. All factor loadings were acceptable (being above 0.30).²⁹ A high factor loading of an item on a given construct indicates convergent validity of that item, implying it is a good measure for the construct. Four of seven items on rejection and five of seven items on emotional warmth had factor loadings greater than 0.5. However, factor loadings on all eight items of overprotection were between 0.34 and 0.50. Therefore, items on rejection and emotional warmth showed stronger evidence on convergent validity compared to those on overprotection.

The correlations among three types of parenting styles in father and mother ranged from –0.37 to 0.56 (Figure 2), implying that each style was distinct. Rejection was negatively correlated with emotional warmth, while overprotection was positively correlated with both rejection and emotional warmth.

Reliability of the s-EMBU scale

The Cronbach's alpha coefficients for each subscale of parenting style are presented in Table 4. The Cronbach's alpha coefficients ranged from 0.62 to 0.82.

Discussion

Our sample included Tibetan adolescents with a slightly higher proportion of females. A model with six factors, three for each parent, that is, equality constrained on factor loadings, factor correlations, and error variance between the father and mother forms, was found to be the most efficient one. The level of consistency was acceptable. Except for one item which needed to be removed and another item that needed to be transferred across to another domain, CFA suggested that the three factors underlying the scales are valid. The parenting styles of Tibetan fathers and mothers were highly correlated.

In this study, Tibetan children perceived the parenting styles of their fathers and mothers in the same way. The high correlation between the same factors in the father and mother models also indicated that their parenting styles were similar. The correlation in parenting style of the father and mother found in this population may reflect that marital conflict was not common. The consistent parenting style

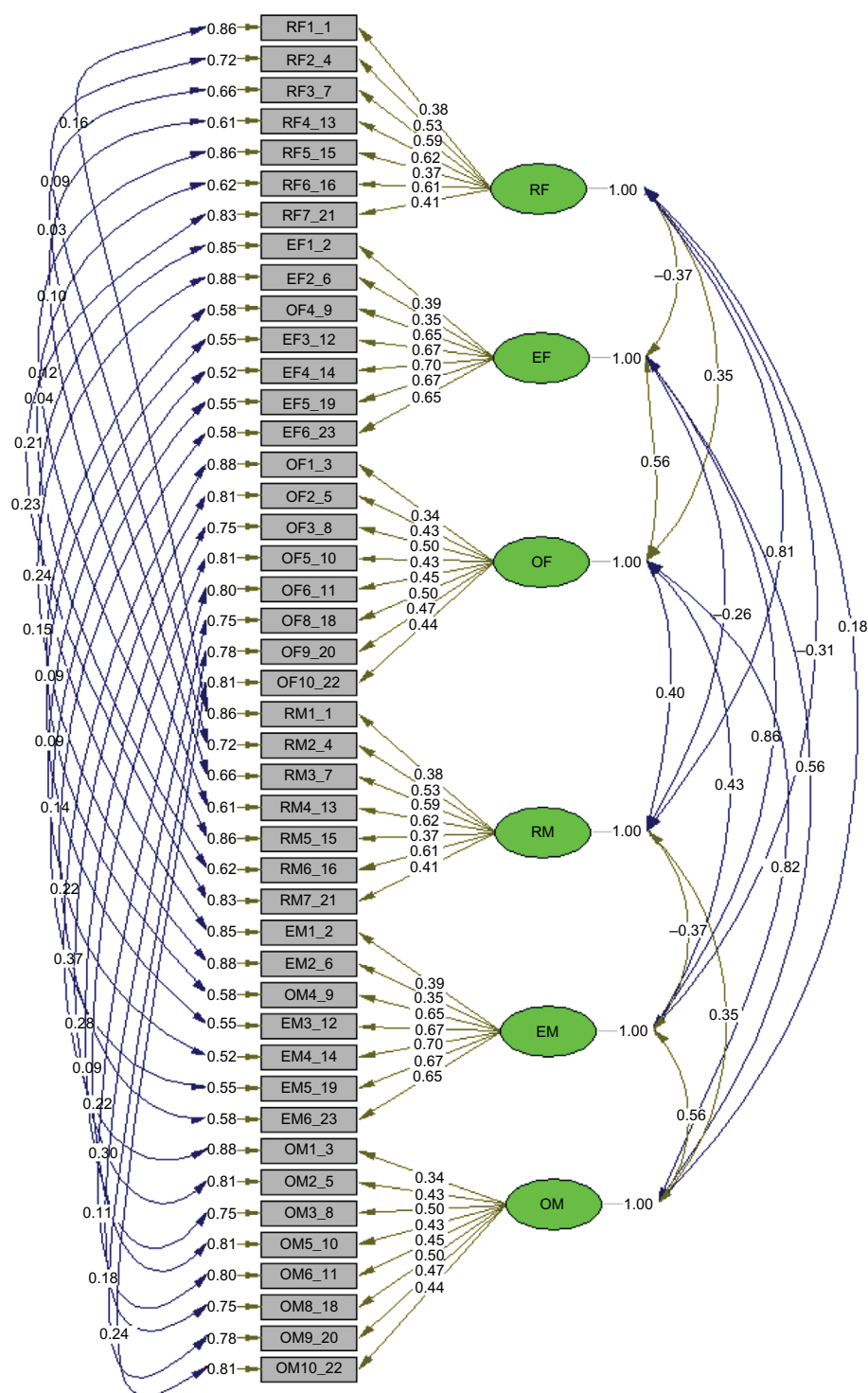


Figure 2 Standardized solution from CFA of the s-EMBU for fathers and mothers (N=423).

Notes: The meaning of codes in the rectangular blocks is the first letter R denotes rejection, O denotes overprotection, E denotes emotional warmth. The second letter F denotes father, M denotes mother. The digits after subscription denote corresponding item number in the original questionnaire.

Abbreviations: RF, father rejection; RM, mother rejection; EF, father emotional warmth; EM, mother emotional warmth; OF, father overprotection; OM, mother overprotection; s-EMBU, short form of the Egna Minnen Beträffande Uppfostran [One's Memories of Upbringing]; CFA, confirmatory factor analysis.

prevents confusion in the children, and thus is beneficial to them.³²

Since rearing behavior is culturally dependent on activities,¹¹ some items which were a good measure in the Western

culture might not be suitable in a Tibetan context. The CFA in this study revealed that items OF7_17 and OM7_17 (I was allowed to go where I liked without my parents caring too much) had low loadings. This may indicate that

Table 4 Reliability of the s-EMBU subscales

Factor	Number of items	Cronbach's alpha
RF	7	0.71
RM	7	0.72
EF	7	0.78
EM	7	0.82
OF	8	0.62
OM	8	0.69

Abbreviations: RF, father rejection; RM, mother rejection; EF, father emotional warmth; EM, mother emotional warmth; OF, father overprotection; OM, mother overprotection; s-EMBU, short form of the Egna Minnen Beträffande Uppfostran [One's Memories of Upbringing].

this item is not suitable for the Tibetan children. However, the culturally specific reason for this is not clear. Furthermore, items OF4_9 and OM4_9 (My parents tried to spur me to become the best), originally designed to measure overprotection, was found to be a measure of emotional warmth in this study. This finding is consistent with those from studies in Australia, Venezuela, and Guatemala.^{19,21} Our finding in Tibetan children is understandable since parental control, especially on learning in school, may be perceived as an expression of care or concern and being acceptable by Asian children.³³ Thus, transfer of this item from the overprotection subscale to the emotional warmth subscale needs to be considered.

The reliability of all subscales in this study was acceptable. However, since the reliability of overprotection in the father form was rather low, further studies are needed to confirm this.

Strengths and limitations

The sample size of current study was big enough to yield a stable solution in CFA and confirm it. The homogenous culture of the study sample ensured the homogeneity of the study sample.

Since nonrandom sampling was employed, generalization of the results is limited. Convergent and discriminant validity was not tested thoroughly in relation to other scales.

Conclusion and implications

The revised Tibetan version of the s-EMBU could be used in the future for both research and clinical patients.

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Disclosure

The authors report no conflicts of interest in this work.

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