The Psychometric Properties of School Engagement Scale in Bangladeshi Culture

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School Engagement (SE) has become a significantly popular topic of psychological research in recent decades. A frequently used measure of SE is the School Engagement Scale (SES) developed by Fredricks, Blumenfeld, Friedel, and Paris (2003). The SES comprises 19 items under three subscales. The aim of this study was to translate the instrument into Bangla and validate it in Bangladeshi culture. A total of 1000 participants (491 males and 509 females) participated in the study. Exploratory Factor Analysis (EFA) which was carried out on sample 1 (n = 500) identified a three-factor structure of the SES with 16 items. The three factors namely 'Cognitive Engagement', 'Behavioural Engagement', and 'Emotional Engagement' together explained 55.48% of the total variance. Analysis with sample 2 (n = 500) in Confirmatory Factor Analysis (CFA) revealed that the three-factor model with 16 items is a good fit. Finally, the SES and its factors showed good internal consistency, convergent and discriminant validity..

Keywords: School engagement scale, Exploratory factor analysis, Confirmatory factor analysis, Validation in Bangla.

Engagement is associated with positive academic outcomes including achievement and persistence in school and it is higher in classroom with supportive teachers and peers, challenging and authentic tasks, opportunities for choice, and sufficient structure (Fredricks, Blumenfeld, & Paris, 2004). School engagement is an emerging concept that can be defined in different ways in an effort to assess the extent to which school children are involved, connected, and committed to school and motivated to learn and achieve. It is often measured as one aspect of school bonding (Gonzalez-DeHass, Willems, & Holbein, 2005). It is also a malleable state that can be shaped by school context, therefore holding tremendous potential as a locus for interventions (Jimmerson, Campos, & Grief, 2003).

School engagement is a multifaceted and integrative construct, encompassing multiple components, for example, motivational, behavioral, emotional, cognitive characteristics, and agentic (Fredricks et al., 2004; Glanville, & Wildhagen, 2007). The motivational dimension of engagement includes the desire to do well. Behavioral engagement often refers to involvement in school-based activities or to the absence of disruptive behaviors (Fredricks et al., 2004). It also relies on the students' persistence, effort, and participation in both school and extracurricular activities. Emotional engagement entails positive emotional reactions to the school, feeling of belonging, the teacher, positive attitudes towards learning, and schoolmates. Cognitive engagement involves internal indicators such as becoming a self-regulated learner (Fredricks et al., 2004). It also focuses on the quality of the students' cognitive processes used in school tasks, also covering the self-regulated learning. Finally, the agentic dimension considers the students' active role in their school participation and learning. Behavioral and emotional aspects of school engagement are likely to be predictive of different outcomes and to be influenced by different variables such as intensively disliking school is the primary reason for a student to leave school (Finn & Rock, 1997), participation in school activities leads to positive academic

outcomes and emotional bonds with school prevent negative developmental outcomes among adolescents, such as delinquency (Carbonaro, 2005).

School engagement is optimized when students perceive that the school context fulfills their needs for competence, autonomy, and relatedness (Deci & Ryan, 2000). Competence refers to the need to experience oneself as effective in one's interactions with the social environment (Elliot & Dweck, 2005), and a student's need for competence is fulfilled when they know how to effectively achieve desired outcomes (Skinner & Belmont, 1993). Autonomy refers to the extent to which an individual experiences oneself as the source of action. Autonomy is supported when a student perceives school work as relevant to his or her interests and goals or when a student experiences choice in determining his or her own behavior (Assor, Kaplan, & Roth, 2002). Finally, relatedness refers to the need to experience oneself as connected to other people (Connell & Wellborn, 1991). Fulfillment of the need for relatedness is likely to occur when teachers and peers create a caring and supportive environment.

In participation-identification model, Finn (1993) has postulated that active participation (behavior) leads to an increased sense of belongingness and to a commitment to learning in students. However, as suggested by Fredricks et al. (2004), it is also possible that emotional engagement leads to increase in behavioral engagement, or in other words, when students feel more attached to school, they are more likely to be involved in school-based activities.

In general, aspects of school engagement are thought to be responsive to contextual and environmental factors, including school climate, classroom environments, and social relations with teachers and peers (Fredricks et al., 2004). Self-determination theorists suggest that individuals seek experiences that fulfill their fundamental needs and identities through their interaction with the environment. According to this view, student engagement in school is influenced by the degree to which they perceive that the school context meets their psychological needs (Connell &Wellborn, 1991; Deci & Ryan, 2000). Drawing on these theoretical frameworks, school engagement results from an interaction of the individual with his/her context and is responsive to both variations in factors of the school environment and motivational characteristics.

Considering the significance of the students' engagement in school, scientists are paying deep attention to the phenomenon worldwide (Willms, 2003). Parents, teachers, and other stakeholders are concerns of adolescents' decreasing motivation level, low academic success, engagement behavior etc. Adolescents' school engagement can be improved by social and family agents (e. g., school, family, peer, community, government etc.) throughout the school years (Appleton, Christenson, & Furlong, 2008). This measurement would help to identify background factors of engagement, cause of disengagement, role of cognitive and emotional factors to engagement, etc. But, there is no scientific assessment tool for measuring the same in Bangladesh till now.

Fredricks et al. (1983) developed such a scientific tool called the SES which assesses attention to class, rules at school, excitement in homework, learning an extra book, trouble at school etc. of adolescents' engagement behavior. The adapted Bangla version SES can help to increase the engagement behavior and reduce disengagement behavior of adolescents respectively. Despite the importance of SES in psychology, sociology, social work, anthropology, and adolescent study, the scale was not adapted in Bangladeshi culture so far.

The scale was mainly developed for serving western purpose. So, it needs to be adapted SES in Bangladeshi culture for better and deep understanding. Because for the sake of a proper scientific tool the validation studies of engagement behavior in Bangladesh is still going on. Contemplating the above mentioned rationale and argument the present researchers have initiated to adapt SES in Bangladeshi culture.

Method

Participants

A total of 1064 eleventh grade adolescent students (524 males and 540 females, session: 2012-2013) from 'seven school and colleges' of Dhaka Metropolitan City (DMC) participated in this study. Due to incomplete responses, 64 participants were dropped. Participants' age ranged from 14 to 19 years with a mean of 16.43 and standard deviation of 0.89. Among the participants 49.25% were boys and 50.75% were girls. 23.12 % of the participants were from lower class, 62.69% from middle class, and 14.19 % were from upper class.

Measures

School Engagement Scale (SES). The SES was developed by Fredricks et al. (2003) for measuring school engagement of elementary and middle school children. The scale consists of nineteen (19) Likert type items with five responses such as 'all of the time' (5), 'most of the time' (4), 'some of the time' (3), 'on occasion' (2), and 'never' (1) compartmentalized into three parts, such as, emotional engagement (6 items), behavioral engagement (5 items), and cognitive engagement (8 items). Fredricks et al. (2003) developed school engagement survey items drawn from a variety of measures (e. g., Finn, Pannozzo, & Voelkl, 1995) and also included some new items in their scale. The obtainable score ranges from 19 to 95 where higher score indicates higher level of engagement. Among 19 items 3 items (Item no. 2, 5, 7) are negative and their scoring is therefore reversed. Individual subscale scores are obtained by summing the scores belonging to a particular subscale (Score ranges from 5 to 25 for behavioral engagement, from 6 to 30 for emotional engagement, and from 8 to 40 for cognitive engagement) while total scores were obtained by summing the scores for all the items of the scale.

The SES has a good face validity, adequate internal consistency, and adequate predictive validity. The Cronbach's α values was .77 for behavioral engagement, .86 for emotional engagement, and .82 for cognitive engagement. The descriptive analyses suggest that the three subscales are valid measures. As reported perceived teacher support was positively related to behavioral, emotional, and cognitive engagement (r = .35 to .49).

Cognitive Emotion Regulation Questionnaire (CERQ). Developed by Garnefski, Kraaij, and Spinhoven (2002), the Cognitive Emotion Regulation Questionnaire (CERQ) is a 36-item in a Likert type scale with five response alternatives ranging from 'almost never' (1) to 'almost always' (5). The scale has nine sub-scales, each subscale consisting of four items each referring to what someone thinks after the experience of threatening or stressful life events. The subscales are grouped broadly as adaptive and less adapted emotion regulation strategies. Adaptive strategies include acceptance, positive refocusing, refocus on planning, positive reappraisal and putting into perspective whereas less adaptive strategies include self-blame, rumination catastrophizing and blaming others. All sub-scales have good internal consistencies ranging from 0.68 to 0.86. The original CERQ has been shown to have good factorial validity, discriminant validity and construct validity (Garnefski, et al., 2002). The CERQ was translated into Bangla and adapted within the socio-economic and cultural context of Bangladesh by Zaman and Karim (2015). The Bangla version has good content validity as reported by experts in the field. The factors of Bangla version ACERQ and LACERQ shows moderate to high internal consistency (Cronbach's α = .71 to .85).

Emotional Intelligence Scale (EIS). Developed by Hyde, Pethe, and Dhar (2002), the Emotional Intelligence Scale (EIS) contains 34 statements, each to be rated on a five-point scale ranging from 'strongly agree' (5) to strongly disagree (1). The statements relate different components of emotional intelligence like self awareness, empathy, self motivation, emotional stability, managing relations, integrity, self development, value orientation, commitment and altruistic behavior. The original scale has high content validity. The split half reliability of the scale is .88. The scale was translated and adapted into Bangla by Uzzaman and Karim (2015). The EIS and its factors showed good

internal consistency (Cronbach's α = .92 - .93 for the SES, and .58 - .83 for the factors). The Bangla version has a good convergent and discriminant validity.

Procedure

Translating the scales into Bangla. At first, written permission was taken from the author of the respective scale for translating and using it in Bangladeshi culture. Thereafter, the English version SES was translated into Bangla. Team Translation (TT) approach was used in the present study. Translation of scale was completed following the TRAPD (Translation, Review, Adjudication, Pretesting, and Documentation) model of TT, which has the following stages.

Stage 1: Translation. The researcher translated the SES and checked and modified the translations with the supervisor.

Stage 2: Review. Six reviewers (Two experts in English, two experts in Bangla, and two experts in Psychology) independently reviewed the translations of the scales with the translator (Researcher) and corrected or refined the translations of some of the items (wherever applicable). All experts had good command over English and Bangla. Each expert's task was to inspect sentence making, wording, clarity, cultural fitness, etc. Their task was also to judge the accuracy of translation or language and the relevance/suitability of each item for measuring engagement in the socio-cultural context of Bangladesh. Each expert independently rated the translation or language using 2-point scale (0 = Not correct, 1 = Correct) and the relevancy of each item using another 2-point scale (0 = Not relevant, 1 = Relevant).

Stage 3: Adjudication. Two adjudicators (the researcher and his supervisor) decided whether the translation is ready for detailed pretesting. Following the reviewer's evaluation in stage 2, accuracy of translation was examined by calculating each item on the Accuracy Index (AI = Number of rating at 1/Number of experts). The item yielding an AI of 1 (AI = 6/6) was considered to be correctly and reliably translated (Karim & Nigar, 2014). The adjudicators

refined or modified two SES items as these items had AI values < 1. The experts in stage 2 suggested some corrections to the clarity, wording, and organization of these items. The adjudicators ensured the accuracy of translation by reviewing those items (AI < 1) in the light of their comments and suggestions. They also examined the relevance/suitability of the items in Bangladeshi culture by calculating for each item the Relevance Index (RI = Number of rating at 1/Number of experts). They considered an item yielding an RI of 1 or .83 (RI = 6/6 or RI = 5/6) to be relevant or suitable (Karim & Nigar, 2014). All the six experts rated the relevance of each item at 1except item no. 19. Thus, the second draft of the Bangla version SES was finalized for piloting/pretesting on a small representative group of participants.

Stage 4: Pretesting/pilot study. Pilot study was conducted on eleventh grade students of 'Uttara United School and College' (n = 100). Pretesting stretches the probability of success, provide precious information for other researchers and practitioners (van Teijlingen & Hundley, 2002). Participants were asked to provide information regarding whether the items or scales were properly readable, feasible, clarity, comprehensiveness, easily answerable, and 'style and formatting' (Karim & Nigar, 2014). The results are presented in the following Table 1.

Table 1. Percentages of the participants who commented on different aspects of the measure

	SES	
	Yes (%)	No (%)
Readable	98	02
Logical	97	03
Clear	94	06
Comprehensive	87	13
Easily answerable	86	14
Style and formatting	88	12

The results of above Table ensured a good face validity of the measure. However, participants were also asked to report verbally regarding difficulty of items, typos, time

consuming, grammatical errors, etc. However, no item was reported to be seriously erroneous or ambiguous to be discarded. Thus, the third draft was prepared for final fielding.

Data acquisition. The researcher personally met each head of the selected 'schools and colleges', narrated the purpose and ethical issues, and finally got permission to collect relevant data from their students. At the beginning, participants were briefed about the general purpose of the study and a rapport was established with them. They were informed both verbally and in writing that the investigation is purely academic and their responses to the questionnaires would be kept confidential.

Thus, after taking their consent the paper-based survey (3rd draft) was administered to the participants. The survey components included an informed consent statement, socio-demographic section, and the SES. After completion of their task, the questionnaires were collected, and they were thanked for their sincere cooperation. In this way, the surveys were administered and data was collected over 3-months (From June to August, 2013) period from all the participants. 64 participants were excluded from the final analyses as they provided incomplete responses to the questionnaires. Thus, the complete response rate was 93.98%.

Data analyses. Each participant's responses were scored according to the scoring principles of the SES. After getting data from 1000 participants (those who provided complete response) they were entered into the computer for analysis. The data analysis was done in three phases. At first, item analysis was done followed by EFA and CFA. The participants were divided into two groups: odd numbered participants and even number participants. Data for the 500 odd numbered participants were subjected to EFA whereas data for the 500 even numbered participants were subjected to CFA. However, before doing these analyses it was checked whether the data was suitable for factor analysis. Different experts (e.g., Cattell, 1978) recommended the minimum sample size of 100 to 250 for factor analysis.

In this study we used data for 500 participants in EFA and 500 participants in CFA. Both these samples exceed the experts' recommendation. Another suggestion is that the SV (subjects-to-variable) would be from 2:1 to 10:1 (Everitt, 1975; Kline, 1979). The number of participants in this study is more than 57 times the number of SES items or variables. Thus, the sample size required for factor analysis was satisfied. However, before carrying out factor analysis the internal consistency was examined by investigating inter-item correlations and item-total correlations. Thereafter, the first set of data was analyzed in EFA and the second set of data was analyzed in CFA in order for comparison to confirm the factors extracted in EFA.

Results

In order to identify the factor structure of SES the first set of data (for 500 participants) were subjected to item analysis and EFA and the second set of data (for 500 participants) were subjected to CFA.

Factor structure of SES

Item analysis. The item analysis was carried out for the 18 items of the SES (item no. 19 was eliminated at the adjudication stage of translation).The correlation matrix (R-matrix 1, data not shown) contained six negative values leading us to exclude item no. 02 and 05. Thus, 16 items were retained for factor analysis. The inter-item correlations for these items are shown in Table 2 (R-matrix 2).

The figures in this table indicate that out of 120 inter-item correlation coefficients 106 (88.33%) were significant, the average inter-item coefficients being .35. All the item-total correlations were significant and ranged from .32 to .73 with a mean of .63.

Exploratory factor analysis. In order to examine whether data was suitable for factor analysis measures of sampling adequacy were carried out on the 16-item SES. Inspection of the R-matrix revealed a substantial number of coefficients .30 and above (66.67%). The determinant of the R-matrix was .002 (>. 00001; Field, 2005). This indicates that there is no multi-colinearity or singularity problem in the

Table 2. Correlation matrix (R-matrix 2) for SES

Items	ses1	ses3	ses4	ses6	ses7	ses8	ses9	ses10	ses11	ses12	ses13	ses14	ses15	ses16	ses17	ses18	SES
ses1	1																
ses3	.546**	1															
ses4	.514**	.578**	1														
ses6	.316**	.324**	.397**	1													
ses7	.150**	.095*	.127**	.346**	1												
ses8	.395**	.379**	.359**	.455**	.187**	1											
ses9	.383**	.411**	.370**	.481**	.195**	.585**	1										
ses10	.450**	.403**	.439**	.409**	.173**	.592**	.638**	1									
ses11	.178**	.216**	.207**	.325**	.110*	.280**	.421**	.387**	1								
ses12	.384**	.435**	.365**	.251**	.142**	.354**	.336**	.418**	.320**	1							
ses13	.383**	.449**	.307**	.317**	.073	.334**	.390**	.401**	.267**	.465**	1						
ses14	.277**	.313**	.236**	.332**	.087	.375**	.310**	.358**	.284**	.407**	.436**	1					
ses15	.342**	.372**	.420**	.347**	.121**	.373**	.368**	.425**	.309**	.460**	.462**	.479**	1				
ses16	.361**	.420**	.371**	.312**	.074	.382**	.371**	.417**	.272**	.410**	.402**	.459**	.601**	1			
ses17	.346**	.394**	.362**	.283**	.071	.343**	.324**	.356**	.272**	.377**	.337**	.340**	.444**	.497**	1		
ses18	.314**	.393**	.284**	.371**	.073	.357**	.446**	.428**	.272**	.305**	.439**	.419**	.460**	.473**	.435**	1	
SES	.618**	.660**	.614**	.631**	.315**	.671**	.703**	.725**	.524**	.639**	.650**	.623**	.697**	.680**	.608**	.653**	1

Note. n = 500, average inter-item correlation = 35, average item–total correlation = .63,
** p < .01 (2-tailed). * p < .05 (2-tailed).

data. The KMO value is .92. Bartlett's test of sphericity indicated a χ2 value of 3100.77 (p < .001). All this together supports the factorability of the R-matrix. Data for the 16-item SES were therefore subjected to EFA. Method of Principal Component (PC) with varimax rotation was used. The initial analysis with Eigen value > 1.00 (the Kaiser-Guttman criterion) extracted 3-factor solution, accounting for 55.48% of the total variance (Data not shown). However, an inspection of the scree plot indicates a clear break after the 3rd component (Figure 1) leading us to retain three components (Karim & Nigar, 2014)
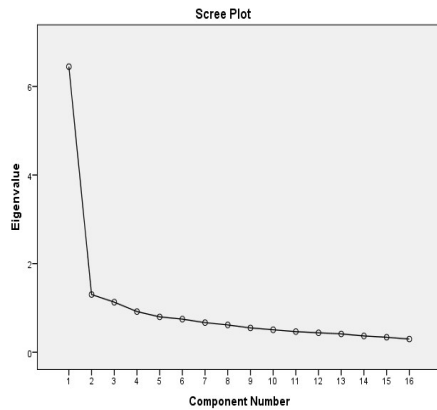

Figure 1. The scree plots generated in EFA for 16 items.

Considering Cattle's view, data were subjected to another EFA limiting the number of factors to three, with all factor loadings < .40 suppressed. The three-factors, which were rotated to the position of maximum orthogonality in six iterations, accounted for 55.48% of the total variance (see Table 3), which was deemed to be the most statistically and conceptually appropriate and most interpretable to the SES.

Factor 1 accounts for 23.84% of the variance, Factor 2 accounts for 15.87% of the variance, and Factor 3 accounts for 15.73% of the variance. Before labeling the factors we identified two pairs of cross-loadings. Specifically, item 10 was cross-loaded on Factor 1 and Factor 3 with the loadings of .40 and .57, respectively; item 11 was cross-loaded on Factor 1 and Factor 3

with the loadings of .45 and .48, respectively. We grouped both item 10 and item 11 under Factor 3, the factor of their larger loading and best conceptual fit. Thus, Factor 1 comprises item no. 12, 13, 14, 15, 16, 17, and 18, which we termed as 'Cognitive Engagement'; Factor 2 comprises item no. 1, 3, 4, which we termed as 'Behavioural Engagement'; and Factor 3 comprises of item no. 6, 7, 8, 9, 10, and11, which we termed as 'Emotional Engagement'.

Confirmatory factor analysis

The CFA in the present study revealed that the three-factor model identified for the SES in EFA is a good fit to the data. Analysis of data demonstrated that, the value of χ 2 was significant [χ 2(101) = 251.62, p < .05]. The normalized χ 2 value is 2.5 (< 5). The values of other fit indices fit well (RMSEA = .05, RMR = .06, CFI = .94, GFI = .94). The factor structure of the three-factor solution is given in Figure 2.
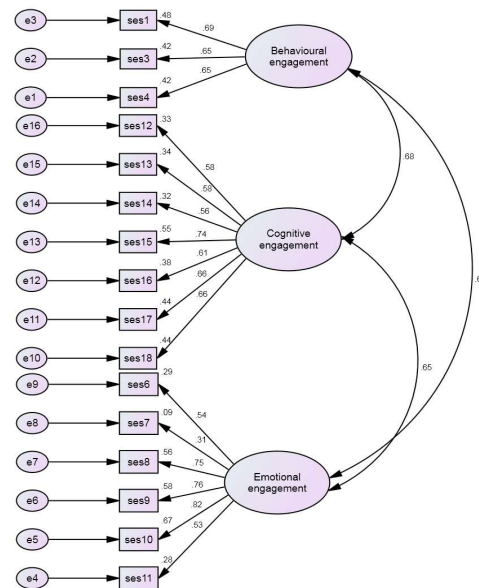

Figure 2. Factor structure of the three-factor solution for the SES (Standardized parameter).

The above figure displays standardized parameters. As we see, factor loadings of the three factors varied from .31 to .82. Particularly good at assessing their latent variables were items, which had the largest factor loadings.

Table 3. Factor loadings from exploratory and confirmatory factor analysis of SES (Three-factor model)

Item numbers	Factor loadings					
	F1: Cognitive engagement		F2: Behavioural engagement		F3: Emotional engagement	
	EFA	CFA	EFA	CFA	EFA	CFA
Item 01			.76	.69		
Item 03			.75	.65		
Item 04			.77	.65		
Item 06					.69	.54
Item 07					.64	.31
Item 08					.59	.75
Item 09					.67	.76
Item 10	(.40)				.57	.82
Item 11	(.45)				.48	.53
Item 12	.54	.58				
Item 13	.61	.58				
Item 14	.71	.56				
Item 15	.72	.74				
Item 16	.72	.61				
Item 17	.59	.66				
Item 18	.65	.66				
Eigenvalue	3.82		2.54		2.52	
Variance explained (%)	23.84		15.87		15.73	

These are ses10 (.82) for the latent variable 'Emotional Engagement', ses15 (.74) for 'Cognitive Engagement', and ses3 (.65) and ses4 (.65) for 'Emotional Engagement'. The lowest factor loading was for ses7 (.31) under the latent variable 'Behavioural Engagement'. Correlations among the latent variables varied from .65 to .69.

The standardized factor coefficients obtained in CFA are presented in comparison with those found in EFA in Table 3. The figures in this table indicate that the coefficients obtained in CFA are fairly consistent with those obtained in EFA.

Validity

As reported by the judges, the Bangla version SES has a good content validity (See the method section for details). The face validity of the Bangla version SES was examined by getting comments about the readability, logicality, clarity, comprehensiveness, easily answerable, and 'style and formatting' of the scale items (Table 1). Both the face and content validity ensured translation validity of the scale.

The convergent validity of the Bangla version SES was examined by estimating inter-factor correlations and the factor-total correlations. The inter-factor correlations (Pearson's r) were all positively significant with the coefficient of .53 to .57. The three factors also significantly correlated with the entire SES, the coefficient ranging from .74 to .89.

The convergent validity of the Bangla version SES was also examined by correlating with ACERQ (Aadaptive cognitive emotion regulation), and EIS (Emotional intelligence scale). As both the SES and ACERQ measures moderately similar meaning (cognition) of engagement. Results indicate that SES has a positive and significant correlation with the above-mentioned scales, such as between SES and ACERQ (r = .27, p < .01), between SES and EIS (r = .39, p < .01). On the other hand, the discriminant validity was checked by correlating between SES and CHS (Children hopelessness scale), between SES and HS (Hostility scale). Results further indicate that the SES has a negative and significant correlation with CHS (r = -.36, p < .01) and HS (r = -.23, p

< .01), which indicates that the scale has a good discriminant validity.

Reliability

The inter-item correlation matrix of the scale contained no negative values (Table 2), indicating that the items were measuring the characteristics that the respective scale was supposed to measure. The reliability of the Bangla version of the scale was further examined by estimating internal consistency. The coefficient of the Cronbach's α was calculated. Cronbach's α (Unstandardized) for the Bangla version SES and its components ranged from .70 to .89.

Discussion

The present study was designed to investigate the psychometric properties of a Bangla version of the SES in the socio-cultural context of Bangladesh. Pilot study ensured the appropriateness of the measure as participants responded from 86% to 98% of different aspects of the measure. Item analysis contained no negative values and all the 120 inter-item correlation coefficients were significant. The item analysis indicates the test items are simple, congruent, and valid with the test objectives. While analyzing the data in EFA a three factor model for the SES was identified, which comprises of 16 items (3 items dropped; Table 3). Factor 1 (7 items) measures 'Cognitive Engagement', Factor 2 (3 items) measures 'Behavioural Engagement', and Factor 3 (6 items) measures 'Emotional Engagement'. These factors together accounted for 55.48% of the total variance, their individual contributions ranging from 15.73% to 23.84% of the measures (Table 3). The finding is consistent with the original scale of Fredricks et al. (1983), where they obtained three-factor model of SES. These three factors is also supported by the research findings of Lam, Jimerson, Shin, Cefai, Veiga, Hatzichristou, Polychroni, Kikas, Wong, Stanculescu, Basnett, Duck, Farrell, Liu, Negovan, Nelson, Yang, and Zollneritsch (2014).

The factors of Bangla version SES shows moderate to high internal consistency (Cronbach's α = .74 to .83), the first factor being most reliable as indicated by its highest

coefficient (Cronbach's α = .83). All the factors were significantly correlated with the whole SES.

The three factor model named 'School Engagement Scale' measures school engagement behaviour of the adolescent such as attention to class, rules at school, excited in homework, learning an extra book, trouble at school, etc. CFA confirmed the three-factor model identified for the SES in EFA is a good fit model to the data.

Factor analysis from prior study (such as Fredricks et al., 1983) found the same sub-factor of SES. This may be due to the cultural fitness of Bangladeshi adolescents. Moreover, items of respective factor may carry very much similar meaning, which helps them grouped under the respective factor like the original scale. Item no. 2 and 5 was dropped during EFA. These items might be non-appropriate, culturally lag, and not representative of school engagement behavior of adolescents in Bangladeshi culture. Now-a-days, students are supervised and cared in Bangladesh regarding their mental health, rational and irrational thinking by their parents, teachers, and family members, which may make cultural inappropriateness of the above-mentioned dropped items. Moreover, Bangladesh is a collectivistic society whereas the original scale has developed in an individualistic society. This may play a role behind the two items getting dropped (Lam et al., 2014). Finally, other factors may affect these items, which are unknown in the present study.

On the other hand, though item 7 has a significant factor loading (.64 in EFA) and is finally retained in the emotional engagement of SES but, the item has low factor loading (.31 in CFA). This may be due to the response style and cultural lag of Bangladeshi students. Thus, the item should further get refined in future research. Other items have consistency factor loading under both the EFA and CFA, which supports their strong representativeness of school engagement in Bangladeshi culture.

The Bangla version of SES reported a good face and content validity. The correlation between SES with other scales such as ACERQ, and EIS proved convergent validity

while discriminant validity was also ensured by correlating with CHS and HS. Both convergent and discriminant validity confirmed empirical validity of the scale. The Bangla version of SES shows good internal consistency (Cronbach's α .89 for the 1st sample, .87 for the 2nd sample, and .88 for the combined sample).

Therefore, the adapted SES can be considered as a valid and reliable instrument for assessing engagement behaviour of the adolescents in Bangladesh. The Bangla version of SES comprises of 16 items on a Likert-type scale, with a minimum obtainable score of 16 and a maximum score of 90.

This study equips us with a psychometric tool, the Bangla version of SES, to be useful to identify the nature of school engagement behavior of adolescent students in Bangladesh. Research using this tool can help us to further design how to improve engagement behaviors towards schools and college of adolescent students, examine reasons for less engagement and aid the policy makers and administrators with an informing strategy and training program for developing and improving engagement behaviour of adolescents. All these, together will help in improving engagement, attachment, and affiliation with school behavior of the adolescents in the country.

Like many other studies, this study suffers from a number of limitations. The study was confined mainly to Dhaka city, and did not cover the entire Bangladesh, which is a hindrance for generalization. Although, the sample size (1000) is sufficient for factor analysis but, contrary to the nation's population (approximately 52,000) it is very low. The second shortcoming is only eleventh grade adolescents were considered in the present study. Thus, future studies could address validating the SES on other age range of adolescents. A third limitation of this study is that it did not examine the association of SES with other engagement scales. Future studies could also consider these variables to further validate the SES in Bangladeshi culture. Finally, the original tool is not a common measure across the countries. It mainly focuses on outcomes such as discipline, not covering other aspects of

school engagement (Lam et al., 2014). Despite these limitations, the present findings can serve as a base or open the door of further research on school engagement in Bangladesh.

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