A VALIDATION STUDY OF THE SOCIAL CONNECTEDNESS QUESTIONNAIRE

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Abstract

This study aims to validate a questionnaire measuring the social connectedness of student teachers. In order to study social connectedness, the items were adapted from the questionnaires which are concerning with the social connectedness. Based on the instruments, Social Connectedness Questionnaire (SCQ), a four-point Likert type self-report questionnaire, is proposed and is investigated to show its validity in a random sample of 520 student teachers. Exploratory factor analysis showed a three-factor structure of the social connectedness composed of (1) sense of belonging, (2) social support, and (3) socialization. Confirmatory factor analysis further confirmed the validity and reliability of social connectedness as a three-factor construct. This Social Connectedness Questionnaire (SCQ) can serve as a tool to evaluate the social connectedness of student teachers.

Keywords: Social Connectedness, Sense of Belonging, Social Support, Socialization

Introduction

Social connectedness was first stated by Lee and Robbins (1995) that it is an individuals' internal sense of belonging and subjective awareness of being close in the community. It could be a sense of closeness with one's family, friends, peers, acquaintances, strangers, community, and society as a whole. This concept was developed based on Kohut's theory (1984) which emphasized greatly on the human need for belongingness. A sense of social connectedness permits people to feel being a part of their world and helps people identify with those who they may perceive as different individuals otherwise.

Without much sense of social connectedness, people may feel especially frustrated and disappointed in the social world when they believe that no one can understand them. Such individuals may start with social difficulties, and eventually they may distance themselves from the society in extreme cases. Social connectedness can also be defined as the individual's awareness concerning that he is part of the social world and connected with others. Therefore, someone with high social connectedness manages to feel closer to other people, becomes friendly and is able to participate in social groups (Lee & Robbins, 1995).

It is understood that social connectedness has a crucial role, particularly for youngsters throughout the university years. As the youngsters move out of an environment wherever they feel they belong to at the beginning of university and move to a different environment. This transition can cause their mind stressful. For feeling themselves happiness to their new surroundings and strengthening their social connectedness, the youngsters get to adapt to the university and their new surroundings, begin new relationships and maintain the relationships they need. If youngsters cannot adapt and strengthen their social connectedness, they are going to feel alone at the university field.

Social connectedness has a direct effect on college student retention. Evidence also suggests that it has a positive correlation with achievement motivation that may influence

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academic achievement (Walton, 2012, cited in Shteynberg (2015)). Social connectedness has become a crucial factor in taking into consideration about the student teachers' academic improvement. Hence, the present study will offer a reliable and valid means of determining social connectedness of student teachers.

Purpose of the Study

The main purpose of the study is to validate the Social Connectedness Questionnaire for the student teachers.

Definition of Key Terms

Social Connectedness: Social Connectedness is defined as an individuals' internal sense of belonging and the subjective awareness of being close in the social world (Lee & Robbins,1995).

Sense of Belonging: A sense of belonging is the feeling of being connected to and valued by other people. Whether it is sourced from family, friends, co-workers, club members, or a church community, people have an inherent desire to belong and be part of something greater than themselves (Baumeister & Leary, 1995; Maslow, 1943).

Socialization: Socialization is the interaction between two or more individuals coming together (whether planned or unplanned) to have a good time and enjoy each other's company (Bradburn, 1969).

Social Support: Social support refers to situations in which one person or group needs help to achieve an objective and another person or group offers resources to provide help (Penner et al.,2006).

Review of Related Literature

It is widely accepted that social connectedness is a multidimensional construct. Based on the review of the literature, three common components of social connectedness can be categorised: socialising, social support, and sense of belonging. These three components are important factors that support people's wellbeing and resilience.

Connectedness in a learning community is the feeling of belonging, of being accepted, and the existence of quality interpersonal relationships (Rovai, 2002). Rovai (2002) concluded that online students can feel connected to their virtual classroom environment, and that students with a stronger sense of community generally possessed greater levels of perceived cognitive learning.

Preece (2004) as cited in (Kusch, 2011) addresses the issue of social capital and its often overlooked importance in learning communities. She indicates the social capital as a paste that holds a community together; it is the shared knowledge, understanding, skills and offers of help needed to achieve shared goals. There are two sorts of social capital: bonding, providing the paste between members of a community, and associating, enabling communities to reach out to each other.

Many studies have found that social connectedness is positively associated with the sense of belonging, personal meaning, life satisfaction, improved health status, cognitive functioning and well-being. On the other hand, social connectedness is negatively correlated with depression and suicidal ideation, chronic loneliness, lower self-esteem, higher trait anxiety and greater social mistrust. Subsequently, social connectedness is a favorable condition that moves an individual ahead in life (Kusch,2011).

Social connectedness involves in all aspects of social interaction including family, friends, and the community; and it refers to one's relationship with others in general. Social connectedness was found out to be correlated with trusted relationships with others, safe attachments, social competent, support accessible to an individual through social ties, a smaller number of difficulties in the relationship with others, adopting characteristics of a social groups. People who have a high sense of connectedness feel themselves belonging to a family, friends or a social group and they define themselves as warm and positive. These people also have a high level of self-esteem, self-worth, purpose and meaning in life since they receive social support and social acceptance from a close environment. They have the ability to develop more meaningful relationships.

Eraslan-Capan (2016) stated that lack of connection to others indicates absence of social support, weak interaction with the social system, or an awareness of separation from others. Low connected individuals may report absence of meaningful and supportive relationships in their lives and as a result they may experience psychological distress. People who lack a sense of connectedness rarely have a sense of belongingness. Low connected individuals may perceive their environment as hopeless and cold, and their sense of self as negative. These findings suggest that low social connectedness leads to more pessimistic thoughts.

Brewer’s theory delivers the space for the role of social connectedness in the maintenance and utilization of one's social identity. Social connectedness is expected to regulate one's social identity or feelings of identification with specific social groups. A strong sense of social connectedness permits a person to engage, at the highest level, his or her social identity. People are more likely to strengthen their social bonds through identification if they feel those relationships will continue to confirm a sense of belonging. At the same time, the social identification process confirms a sense of belonging.

According to self-psychology theory (Lee & Robbins, 1995), a sense of social connectedness develops early in life and expands throughout the life span. The primary sense of security and likeness with others can be delivered by the parent-child attachments in babyhood. In adolescence, peer attachments and group memberships let individuals identify with others who share similarities in appearance, interests, and talents. By adulthood, the combination of these past and present relationship experiences is progressively incorporated into one's overall sense of self, providing a relatively stable psychological sense of connectedness that is not susceptible to uncertainties in relationships, such as the loss of a friend or social exclusion from a group (Lee & Robbins, 1998).

The social connectedness scale developed by Lee & Robbins (1995) is the most frequently scale to assess the degree to which youth feel connected to others in their social environment. However, the scale contains no subscale. While the social connectedness has become predominant to be measured, it is demanded to ensure the questionnaire psychometrically sound. As a consequence, the current study will examine the psychometric properties of Social Connectedness Questionnaire with a special emphasis on its construct validity and reliability.

Method

The descriptive survey method is utilized in this study.

Participants of the Study

The participants of the study are selected by using the random sampling method. The sample is composed of 520 student teachers (192 males and 328 females) in the study.

Instruments

The items for the questionnaire were generated through a literature review. In order to study social connectedness, the items were adapted from the questionnaires which are concerning with the social connectedness .The items comprised in the social connectedness questionnaire are assembled from 20 items of social connectedness scale revised (Lee, Draper & Lee, 2001),11 items of "Role of the Sportive activities in Socialization Process of the University Students" Sahan's (2007), 8 items of "The Interpersonal Support Evaluation List (Mermelstein R., Kamarck T., & Hoberman, H.M. (1985) and 15 items of Sense of Belonging Scale Revised questionnaire (Hoffman,M.B., Richmond, J.R., Morrow, J.A., & Salomone, K (2002-2003).The items were rated on four-point Likert Scale (1 = strongly disagree to 4 = strongly agree). The approximate time duration to accomplish all the items is about 15 minutes.

Data Collection Procedure

The expert review was conducted for face validity and content validity from nine well-experienced experts in the field of Educational Psychology. Based on the advice and the suggestions of the experts, some items were revised and omitted to avoid overlapping and uncertainty of items. The instrumentation procedure was done from March to May in 2022. To validate the social connectedness questionnaire, exploratory factor analysis and confirmatory factor analysis were performed.

Findings

Exploratory Factor analysis

At first, exploratory factor analysis was used to discover dimensions of the questionnaire and the number of items. It was also used to assume that there is a smaller set of unobserved (latent) variables or constructs that underlie the variables that actually were observed or measured. Exploratory factor analysis was conducted with the sample of 520 student teachers. Of these students, 192 are male student teachers and 328 are female ones.

Kaiser-Meyer-Olkin (KMO) was applied to assess the appropriateness of using factor analysis on the data set and Bartlett's test was utilized to check the assumption of equal variances before proceeding an EFA analysis. If KMO coefficient was greater than 0.60 and the Bartlett's test was significant, it would be possible to run an EFA analysis according to Buyukozturk (2006) . The results of KMO and Bartlett's test are shown in Table 1.

Table 1 KMO and Bartlett's Test of Social Connectedness Questionnaire

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.895
Bartlett's Test of Sphericity	Approx. Chi-Square	9489.472
	Df	1431
	Sig.	0.000

According to Table 1, the KMO value of 54 items was 0.895 so that it was greater than 0.60 and the Bartlett's test was found to be significant (Chi-square= 9489.472, Df=1431, $p<0.01$). This meant that the variables were correlated highly enough to provide a reasonable basis for factor analysis. These tests of normality and sampling adequacy indicated that the correlation matrix was of acceptable quality. Thus, the data were suitable to run EFA.

The principal axis factor analysis with varimax rotation was conducted to assess the underlying structure for the fifty-four items of Social Connectedness Questionnaire. Three factors were requested and according to these factors, the items were designed to index three factors.

The factors are named as sense of belonging, social support and socialization. Table 2 displayed the items and factor loadings for the rotated factors.

Table 2 Factor Loading for Rotated Factors of Social Connectedness Questionnaire

	Items	Factors			Communalities
		1	2	3	
1	I feel that there is no one I can share my most private worries and fears with.	.600			.443
2	Even around people I know I don't feel that I really belong.	.564			.457
3	I feel disconnected from the world around me.	.540			.625
4	I catch myself losing a sense of connectedness with society.	.531			.486
5	I don't feel I participate with anyone or any group.	.525			.497
6	I feel like an outsider.	.501			.536
7	I don't feel related to most people.	.497			.448
8	If I were sick, I could easily find someone to help me with my daily chores.	.462			.388
9	Even among my friends, there is no sense of brother/sisterhood.	.448			.338
10	It is difficult to meet other students in class.	.444			.470
11	I feel comfortable asking a question in class.		.709		.579
12	Speaking in class is easy because I feel comfortable.		.613		.539
13	I feel comfortable contributing to class discussions.		.552		.510
14	I feel comfortable asking a teacher for help if I do not understand course-related material.		.538		.455
15	I invite people I know from class to do things socially.		.502		.437
16	I like to participate in any sort of social activities.		.397		.326
17	I am in tune with the world.		.394		.533
18	I feel comfortable in the presence of strangers.		.375		.534
19	I feel comfortable talking about a problem with the school community.		.360		.364
20	I have met with classmates outside of class to study for an exam.		.345		.354
21	I have discussed personal matters with students who I met in class.		.336		.411
22	If I miss class, I know students who I could get notes from.			.591	.451
23	I discussed events which happened outside of class with my classmates.			.542	.476
24	Other students are helpful in reminding me when assignments are due or when tests are pproaching.			.471	.395
25	My family has an active role in specifying my circle of friends.			.462	.349
26	I could contact another student from class if I had a question.			.451	.489
27	If I wanted to have lunch with someone, I could easily find someone to join me.			.415	.401
28	I see people as friendly and approachable.			.408	.365
29	I like to meet new people, and get engaged in social activities.			.393	.436
	Inter-Factor Correlations 2 3	-.613 .490	 -.018		
	Eigenvalues % of Variance	20.497	6.421	4.652	
	Cumulative %	20.497	26.919	31.571	

By reviewing the rotating factor matrix, 25 items are not correlated with any factors and some of them have low standard loadings so that they are removed. A three-factor construct consisting of 29 items explaining 31.57 % of total variance is obtained.

Table 3 Reliability Analysis of Social Connectedness Questionnaire

Questionnaire/Factors	**Number of Items**	**Cronbach's Alpha**
Sense of Belonging	10	0.84
Social Support	11	0.82
Socialization	8	0.80
Social Connectedness	29	0.82

According to Table 3, reliability coefficients of each factor for Social Connectedness Questionnaire ranged from 0.80 to 0.84. These values of coefficients indicated that 29 items Myanmar Version of Social Connectedness Questionnaire was good to measure social connectedness of student teachers because according to Sekaran and Bougie (2013), reliability coefficients above 0.89 are generally considered as excellent, 0.80-0.89 were good and 0.7-0.79 were adequate. The reliability coefficient values were 0.8 and higher than 0.8. Thus, Social Connectedness Questionnaire was reliable to measure social connectedness of student teachers in Education Degree Colleges in Myanmar.

Confirmatory Factor Analysis

Confirmatory factor analysis was used to establish three factors of the social connectedness of the student teachers. Confirmatory factor analysis is a multivariate statistical procedure that is used to test how well the measured variable represent the number of factors. The data of fit of the models of the social connectedness was checked in Table 4.

Table 4 Model Fit Indices

Model	χ^2	***p*-value**	**CMIN/ DF**	**CFI**	**GFI**	**AGFI**	**RMSEA**	**TLI**
Three factors 29-items Social Connectedness Questionnaire	3723.941	0.000	3.108	0.698	0.751	0.729	0.063	0.685

The data is assumed to be fit to the model if the CFI, GFI, AGFI and TLI values are higher than 0.90 (Hooper, Coughlan, & Mullen,2008) and RMSEA value range from 0.05 to 0.1 (Bentler,1990) and CMIN/Df (Chi-square/Df) was not exceeded 3. Based on the Table 4, CFI, GFI, AGFI and TLI did not reach adequate value. So, the model was re-specified. Hooper, Cough and Mullen (2008) expressed that it is a good to remove the items with low R^2 values (less than 0.2) from the analysis to remove the better model fit. In the present analysis, the R^2 values of three items were less than 0.2. Therefore, these items were removed from this study.

Moreover, according to Gerbing and Anderson (1984), another way of improving model fit is through the correlation of error terms. Then, after correlated error terms, the analysis was

run to get a perfect model fit. The final model for social connectedness with 26 items was shown in Table 5.

Table 5 Model Fit Indices of the Final Model

Model	χ^2	*p*-value	CMIN/ DF	CFI	GFI	AGFI	RMSEA	TLI
Three factors 26-items Social Connectedness Questionnaire	552.532	0.000	1.957	0.936	0.930	0.908	0.043	0.923

Based on the data presented in Table 5, CFI, GFI, AGFI and TLI were greater than 0.9 and RMSEA ranged from 0.05 to 0.1 and chi-square was found significant at $p<0.05$. Therefore, the model fit indices of social connectedness with 26 items were obtained.

Validity and Reliability

Convergent validity

Convergent validity is also an evidence to test construct validity. To establish convergent validity, factor loading of the indicator variables, composite reliability (CR) and average variance extracted (AVE) should be used. AVE and CR values were computed by the formula using Microsoft Excel. Table 6 shows that the results of AVE and CR of social connectedness questionnaire.

Table 6 Composite Reliability (CR) and Average Variance Extracted (AVE) of Social Connectedness Questionnaire

Factors	CR	AVE
Sense of Belonging	0.82	0.59
Social Support	0.81	0.54
Socialization	0.80	0.59

The AVE values for the model range from 0.54 to 0.59. The CR values range from 0.8 to 0.82. According to Huang et al (2014), AVE should be above 0.5 and CR should be 0.6 and above. According to Table 6, AVE values were above 0.5 and CR values were above 0.6. Then, the convergent validity was achieved for this construct. Therefore, the social connectedness questionnaire can be assumed that it was a valid instrument to measure social connectedness of the student teachers.

Discriminant Validity

Discriminant validity was used to show that the factor is actually differing from one another empirically. Discriminant validity was evaluated with square root of AVE with correlations of latent construct. The results were shown in Table 7.

Table 7 Square root of AVE with Correlations of Latent Factors of Social Connectedness

Factors	Sense of Belonging	Social Support	Socialization
Sense of Belonging	**0.59**		
Social Support	0.5	**0.54**	
Socialization	0.47	0.54	**0.59**

Questionnaire

Note: The diagonal numbers in bold letters are the square root of AVE values.

According to Table7, all the square root of AVE values was greater than 0.5 and these values were greater than all the inter-latent factor correlations for all factors in the relevant rows and columns. According to Fornell and Larcker (2011) as cited in Ab Hamid et al.(2017) , square root of AVE should be above 0.5. Then, according to Hair et al (2011), square root of AVE values was greater than the inter-latent factor correlations. Thus, the results of the discriminant validity of Social Connectedness Questionnaire were compatible with Fornell and Larcker and Hair et al (2011). According to Table 7, discriminant validity can be accepted for the measurement model and the discriminant validity between the factors.

Reliability

After the result of confirmatory factor analysis of SCQ, the final scale of SCQ consisted of three factors with 26 items in this study. Table 8 showed that the number of items retained and described reliability coefficient for each factor of SCQ.

Table 8 Reliability Coefficient for each Factor of SCQ

Factors	Number of items	Cronbach' Alpha
Sense of Belonging	9	0.82
Social Support	11	0.81
Socialization	6	0.74
SCQ	26	0.80

Based on Table 8, reliability coefficient of each factor ranged from 0.74 to 0.82 and the reliability coefficient of SCQ was 0.80. Thus, SCQ was reliable to measure social connectedness of the student teachers.

Discussion

The purpose of this study was to validate a questionnaire that measured student teachers' social connectedness in Myanmar context. The research yielded a 26- item measure with three factors, and the results provided evidence for the validity and reliability. It is believed that Social Connectedness Questionnaire developed for the student teachers can be supportive for addressing the problems such as weakness in cooperation, unwillingness to participate in the group work activities and social problems in the learning process and low academic success. It is certainly important that the student teachers should have a high level of social connectedness in order to

implement the effective teaching learning process in 21st century. Therefore, it can be said that the questionnaire is competent enough to measure the social connectedness of student teachers and to provide guidance for teacher educators, administrators and psychological counselors.

Conclusion

A Social Connectedness Questionnaire (SCQ) was identified and applied with 26 items by using CFA. All the model fit indices (RMSEA=0.043, CFI=0.936, TLI=0.923, p=0.00) indicated a good fit between the measurement model tested and the data. The convergent validity of Social Connectedness Questionnaire was indicated by high composite reliability values and acceptable AVE values. The discriminant validity of the model was also indicated by the AVE values. As for the internal consistency reliability, the values of Cronbach's alpha pointed out the satisfactory results for reliability of Social Connectedness Questionnaire. In accordance with results, Social Connectedness Questionnaire (SCQ) can be considered a valid and reliable tool for measuring student teachers' social connectedness.

Acknowledgements

This endeavor would not have been possible without those who advocate and persuade for this study. First of all, we would like to extend our sincere thanks to Dr. Kay Thwe Hlaing, Rector of Yangon University of Education for encouragement, administrative supports, official permission, and providing facilities throughout the research. Words cannot express our gratitude to the Pro-Rectors of Yangon University of Education: Dr. Pyone Pyone Aung, Dr. Khin Khin Oo, Dr. Nyo Nyo Lwin and Dr. May Myat Thu for their grateful consent and guidance. Then, we would like to express our deepest appreciation to Dr. Khin Hnin Nwe (Professor and Head of Department of Educational Psychology, Yangon University of Education) and Dr. Cherry Zin Oo (Lecturer, Department of Educational Psychology, Yangon University of Education) for their advice and timely suggestions. Furthermore, thanks should also go to the administrators and teacher educators for their permission to conduct this study. Lastly, we would be remiss in not mentioning student teachers from Education Degree Colleges for their active contribution and collaboration for data collection.

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