

Dissertation

Effect of Social Skill Training on Social Anxiety, Self-Esteem and Adjustment of Students at the University Level



A dissertation submitted to the Department of Psychology, University of Dhaka,
Dhaka, Bangladesh, in fulfillment of the requirements for the degree of
Doctor of Philosophy (Ph.D.) in Psychology

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Ph.D. Registration No: 27

Academic Session: 2017-2018

Department of Psychology

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Dhaka, Bangladesh

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Dedication

To my beloved parents:

Late Abdul Kuddus

and

Ismot Ara

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Declaration

I hereby declare that the dissertation titled “Effect of Social Skill Training on Social Anxiety, Self-Esteem and Adjustment of Students at the University Level”, submitted to the Department of Psychology, University of Dhaka, in fulfillment of the requirements for the award of the degree of Doctor of Philosophy (Ph.D.) in Psychology, is my original work. This thesis has not been submitted earlier in part or full for the award of any other degree to any other university or institution.

I have followed the guidelines provided by the university in preparing the thesis and ensured that the work is free from any form of plagiarism. Any reference to other works has been duly cited and acknowledged.

I take full responsibility for the integrity and originality of the research work presented in this dissertation.

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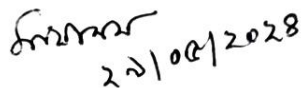
Dhaka, Bangladesh

Approval

This is to certify that the dissertation entitled “Effect of Social Skill Training on Social Anxiety, Self-Esteem and Adjustment of Students at the University Level”, submitted by **Ifrat Jahan** (Registration No: 27/2017-2018) to the Department of Psychology, University of Dhaka, in fulfillment of the requirements for the award of the degree of Doctor of Philosophy (Ph.D.) in Psychology, is a record of original and Independent research work carried out by her under my supervision and guidance.

The thesis embodies the data and findings of the research work, which to the best of my knowledge, has not been submitted elsewhere for the award of any degree.

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Table of Contents

Contents		Page
Declaration		iv
Approval		v
Acknowledgments		vi
List of Tables		x
List of Figures		xiii
List of Appendices		xv
List of Abbreviation		xvi
Abstract		xviii
Chapter 1: Introduction		1-29
1.1	Statement of the Problem	4
1.2	Key Terms	4
	1.2.1 Social Anxiety	4-7
	1.2.2 Self-Esteem	7-8
	1.2.3 University Adjustment	8-11
	1.2.4 Social Skills	11-13
	1.2.5 Social Skill Training (SST)	13-15
1.3	Literature Review	15-20
	1.3.1 Effectiveness of SST for Students' Social Anxiety, Self-Esteem, and University Adjustment	16-18
	1.3.2 Comparative Analysis of Changes between Experimental and Control Groups	18
	1.3.3 Within-Group Comparative Analysis of Changes Over Time	18
	1.3.4 Investigation of Interaction Effect of Groups and Time Points	19
	1.3.5 Assessment of Mediation Effect of Self-Esteem	19
1.4	Research Questions of the Study	20
1.5	Rationale of the Study	20
1.6	Objectives and Hypotheses of the Present Study	21-24

1.7	Conceptual Framework of the Study	24-25
1.8	Operationalizations of Variables	25-29
Chapter 2: Method		30-136
2.1	Study Design	31-32
2.2	Study Settings	32
2.3	Sample	32-37
	2.3.1 Sample Size Calculation	32
	2.3.2 Recruitment and Inclusion Criteria of Participants	32-33
	2.3.3 Sampling Technique	33-34
	2.3.4 Socio-Demographic Properties of Participants	34-37
2.4	Used Measures	37-126
	2.4.1 Eligibility Measure	38
	2.4.1.1 Severity Measure for Social Anxiety Disorder (Social Phobia)-Adult	38-39
	2.4.2 Personal Information Form (PIF)	39
	2.4.3 Outcome Measures	39-47
	2.4.3.1 Brief Version of the Fear of Negative Evaluation (Brief FNE) Scale	39-40
	2.4.3.2 Inventory of Interpersonal Situations (IIS)	40-41
	2.4.3.3 Rosenberg Self-Esteem Scale (RSES)	41-42
	2.4.3.4 Student Adaptation to College Questionnaire (SACQ)	42-47
	2.4.4 Scale Translation Process	47-53
	2.4.5 Scale Validation Process	53-126
	2.4.5.1 Item Analysis, Construct Reliability and Validity of BFNE Scale	54-60
	2.4.5.2 Item Analysis, Construct Reliability and Validity of RSES	60-64
	2.4.5.3 Item Analysis, Principal Component Analysis, and Construct Reliability and Validity of IIS (Discomfort & Frequency)	64-87
	2.4.5.4 Item Analysis, Construct Reliability and Validity of SACQ	87-107
	2.4.5.5 Discriminant Validity of LOCs	108-113

	2.4.5.6 Construct Reliability and Validity of HOC ₁	114-117
	2.4.5.7 Discriminant Validity of HOC ₁	117-121
	2.4.5.8 Construct Reliability and Validity of HOC ₂	121-122
	2.4.5.9 Discriminant Validity of HOC ₂	122-124
	2.4.5.10 Properties of Validated BFNES, RSES, IIS, and SACQ	125-126
2.5	Ethical Considerations	126
2.6	Procedure	127
	2.6.1 Social Skill Training Program	127-129
	2.6.2 Therapists or Trainers	129
	2.6.3 Experimental Procedure	130-132
	2.6.4 Program Fidelity	132-133
2.7	Statistical Analysis	133-136
Chapter 3: Results		137-179
3.1	Comparison of Changes in Studied Variables between Experimental and Control Groups	138-144
3.2	Comparison of Changes in Studied Variables among Different Time-Points within Experimental and Control Groups	145-154
3.3	Interaction Effect of Group (EG and WCG) and Time-Points (Pretest and Post-test)	155-163
3.4	Group-Wise Mediation Effect of Self-Esteem	163-179
Chapter 4: Discussion		180-196
4.1	Discussion on Comparison of Changes in Studied Variables between Groups	183-185
4.2	Discussion on Comparison of Changes in Studied Variables among Different Time Points	185-186
4.3	Discussion on Interaction Effect of Group and Time-Points	187-189
4.4	Discussion on Group-Wise Mediation Effect of Self-Esteem	189-190
4.5	Limitations of the Study	190-192
4.6	Recommendations	192-194
4.7	Implications of the Present Study	194-196
	4.7.1 Theoretical Implications	194-195
	4.7.2 Practical Implications	199-196

Chapter 5: Conclusion	197-198
References	199-229
Appendices	230-255

List of Tables

Table	Title	Page
1	Design of the Present Study	31
2	Distribution of Participants in Experimental and Waitlist Control Groups Based on Institute and Gender	33
3	Demographics Characteristics of Participants at Baseline	35
4	Participants' Parental Education, Profession and Socio-Economic Status	36
5	Distribution of Items Under Respective Scale, Subscale, or Cluster	45
6	Results of the Accuracy Indexes of the Scales	50
7	Results of the Relevancy Indexes of the Scales	51
8	Percentages of the Participants Commented on Different Aspects of Each Scales	52
9	Validation Analysis Techniques and Assumptions on Its Indexes	55-56
10	Item Properties of the BFNE Scale	57
11	Construct Reliability and Validity of BFNE Scale	58
12	Construct Reliability and Validity of BFNE Scale After Adjustment	59
13	Item Properties of the RSES	61
14	Construct Reliability and Validity of RSES	62
15	Construct Reliability and Validity of RSES After Adjustment	63
16	Item Properties of the IIS: Discomfort	65-66
17	Item Properties of the IIS: Frequency	68-69
18	Principal Component Analysis of 9 Items (Labelled as Other) of IIS: Discomfort & Frequency	72

19	Construct Reliability and Validity of IIS: Discomfort	75
20	Construct Reliability and Validity of IIS: Discomfort After Adjustment	78
21	Construct Reliability and Validity of IIS: Frequency	82
22	Construct Reliability and Validity of IIS: Frequency After Adjustment	83
23	Percentage of Response on Items of the SACQ	88-90
24	Item Descriptives of the SACQ	91-93
25	Construct Reliability and Validity of SACQ	96-97
26	Construct Reliability and Validity of SACQ After Adjustment	103-104
27	Discriminant Validity of LOCs: Heterotrait-Monotrait (HTMT) Ratio	109
28	Discriminant Validity of LOCs: Fornell-Larcker Criterion	110
29	Discriminant Validity of LOCs: Cross-Loadings	111-113
30	Construct Reliability and Validity of First-Order Higher-Order Constructs (HOC ₁)	115
31	Discriminant Validity of First-Order Higher-Order Constructs (HOC ₁): Heterotrait-Monotrait (HTMT) Ratio	117
32	Discriminant Validity of First-Order Higher-Order Constructs (HOC ₁): Fornell-Larcker Criterion	118
33	Discriminant Validity of First-Order Higher-Order Constructs (HOC ₁): Cross-Loadings	120
34	Construct Reliability and Validity of Second-Order Higher-Order Constructs (HOC ₂)	122
35	Discriminant Validity of Second-Order Higher-Order Constructs (HOC ₂)	123
36	Properties of Original Scale and Validated Scale	124
37	Details of SST Program	128
38	Data Analysis Techniques and Assumptions on Its Indexes	135
39	Mean Difference of Pretest Scores on Different Measures Between Experimental and Waitlist Control Groups	140

40	Mean Difference Between Post-test Scores in Experimental Group and Post-Wait Scores in Waitlist Control Groups on Different Measures	141
41	Mean Difference of Post-test Scores on Different Measures Between Experimental and Waitlist Control Groups	143
42	Mean Difference of Follow-Up Scores on Different Measures Between Experimental and Waitlist Control Groups	144
43	Univariate and Multivariate Analysis from One-Way Repeated Measures ANOVA within Experimental Group	145
44	Pairwise Comparison among Three Time Points within Experimental Group	147
45	Univariate and Multivariate Analysis from One-Way Repeated Measures ANOVA within Waitlist Control Group	150-151
46	Pairwise Comparison among Four Time Points within Waitlist Control Group	153-154
47	Univariate Effect of Group, Time, and Interaction from Repeated Measures MANOVA	155
48	Multivariate Effect of Group, Time, and Interaction from Repeated Measures MANOVA	163
49	Measurement Invariance of Composites (MICOM) Analysis in Experimental and Waitlist Control Groups	166
50	Multi-Group Analysis (MGA) Between Experimental and Waitlist Control Groups	168
51	Direct Effects in the Structural Model	170-171
52	Mediation Effects of Self-Esteem	178-179

List of Figures

Figure	Title	Page
1	Conceptual Framework of the Present Study	25
2	TRAPD Team Translation Model	48
3	The Output of Scree Plot Illustrated that the Others Subscale in the Discomfort Scale of IIS has Two Factors	73
4	The Output of Scree Plot Illustrated that the Others Subscale in the Frequency Scale of IIS has Two Factors	74
5	Flow Diagram of Participant's Enrollment Following CONSORT-SPI 2018 Guideline	131
6	Guidelines for MGA and MICOM Tests Using SmartPLS 4	136
7	Guidelines for Mediation Analysis Using SmartPLS 4	136
8	Social Anxiety, Self-Esteem, and University Adjustment at Pretest Time Point Between Experimental and Waitlist Control Groups	139
9	Social Anxiety, Self-Esteem, and University Adjustment at Post-Test/Post-Wait Test Between Experimental and Waitlist Control Groups	141
10	Social Anxiety, Self-Esteem, and University Adjustment at Post-Test Between Experimental and Waitlist Control Groups	142
11	Social Anxiety, Self-Esteem, and University Adjustment at Follow-Up Test Between Experimental and Waitlist Control Groups	144
12	Changes of Social Anxiety, Self-Esteem, and University Adjustment Across Three Time Points in Experimental Group	146
13	Changes of Social Anxiety, Self-Esteem, and University Adjustment Across Four Time Points in the Waitlist Control Group	149

14	Interaction Effect of Group and Time in Fear of Negative Evaluation	157
15	Interaction Effect of Group and Time in IIS Discomfort	158
16	Interaction Effect of Group and Time in IIS Discomfort	159
17	Interaction Effect of Group and Time in Self-Esteem	160
18	Interaction Effect of Group and Time in University Adjustment	162
19	Structural Model of Variables in Experimental Group	169
20	Structural Model of Variables in Waitlist Control Group	172
21	Complete Structural Model of Variables	172

List of Appendices

Appendix	Title	Page
A	Consent Form	231
B	Personal Information Form	232
C	Session Structure of SST	233-234
D	Bangla Version of Severity Measure for Social Anxiety Disorder (Social Phobia)-Adult	235
E-1	Brief Fear of Negative Evaluation Scale: English Version	236
E-2	Brief Fear of Negative Evaluation Scale: Final Adapted Bangla Version	237
F-1	Inventory of Interpersonal Situation (Discomfort & Frequency): English Version	238-241
F-2	Inventory of Interpersonal Situation (Discomfort & Frequency): Final Adapted Bangla Version	242-245
G-1	Student Adaptation to College Questionnaire: English Version	246-249
G-2	Student Adaptation to College Questionnaire: Final Adapted Bangla Version	250-251
H-1	Bangla Version (Ilyas, 2003) of Rosenberg Self-Esteem Scale	252
H-2	Bangla Version (Ilyas, 2003) of Rosenberg Self-Esteem Scale: Validated Bangla Version	253
I	Ethical Clearance Certificate	254
J	Similarity Index Report	255

List of Abbreviations

Abbreviation	Elaboration
ACT	Acceptance and commitment therapy
AI	Accuracy Index
AIIC	Average Inter-Item Correlation
AITC	Average Item-Total Correlation
ANOVA	Analysis of Variance
APA	American Psychiatric Association
APA	American Psychological Association
AVE	Average Variance Extracted
BCCI	Bias Corrected Confidence Interval
BFNE	Brief Fear of Negative Evaluation
CBGT	Cognitive behavior group therapy
CB-SEM	Covariance-Based Structural Equation Modeling
CE	Ceiling Effect
CFA	Confirmatory Factor Analysis
CID	Cronbach's alpha if item deleted
CITC	Corrected Item-Total Correlation
CR	Composite Reliability
DSM-V	Diagnostic and Statistical Manual of Mental Disorders
EFA	Exploratory Factor Analysis
EG	Experimental Group
FE	Floor Effect
FNE	Fear of Negative Evaluation
GPA	Grade point average
HOC	Higher-Order Construct
HTMT	Heterotrait-Monotrait Ratio
IIS	Inventory of Interpersonal Situations
KMO	Kaiser-Meyer-Olkin

LOC	Lower-Order Construct
MANOVA	Multivariate Analysis of Variance
MGA	Multi-Group Analysis
MICOM	Measurement Invariance of Composites
PCA	Principal Component Analysis
PIF	Personal Information Form
PLS-SEM	Partial Least Squares Structural Equation Modeling
RCT	Randomized Controlled Trial
RI	Relevancy Index
<i>R</i> -matrix	Correlation matrix
RSES	Rosenberg Self-Esteem Scale
SACQ	Student Adaptation to College Questionnaire
SAD	Social anxiety disorder
SEM	Structural Equation Modeling
SP	Social phobia
SST	Social Skill Training
T _{1e}	Pre-test in the experimental group
T _{1w}	Pre-test in waitlist control group
T _{2e}	Post-test in experimental group
T _{2w}	Post-wait test waitlist control group
T _{3e}	Follow up after 1-month in experimental group
T _{3w}	Post-test waitlist control group
T _{4w}	Follow up after 1-month waitlist control group
TRAPD	Translation, Review, Adjudication, Pretest, and Documentation
UGC	University Grants Commission
VAF	Variance Accounted For
WCG	Waitlist Control Group
X _e	4 weeks training in experimental group
X _w	4 weeks training waitlist control group

Abstract

This study investigated the effect of social skill training (SST) intervention on social anxiety, self-esteem, and university adjustment among university-level students in Bangladesh. Utilizing a quasi-experimental randomized waitlist control design, participants were assigned to either the experimental group (EG), which received a four-week SST intervention, or the waitlist control group (WCG), which waited four weeks before receiving the intervention. Assessments were conducted at pretest, post-wait test, post-test, and one-month follow-up tests to evaluate changes in social anxiety, self-esteem, and university adjustment. This study was conducted across eight institutions, including three public universities, three private universities, and two university-affiliated colleges, from January to April 2023. A total of 172 students, divided into experimental ($n = 93$) and waitlist control ($n = 79$) groups participated in the study. The participants were recruited through notices and underwent screening for social anxiety disorder. The intervention consisted of eight group sessions delivered over four weeks, focusing on verbal, nonverbal, and assertive communication skills. The study employed an eligibility measure i.e., the Severity Measure for Social Anxiety Disorder (Social Phobia)-Adult, and four outcome measures, including the Brief Version of the Fear of Negative Evaluation (BFNE) Scale, Inventory of Interpersonal Situations (IIS), Bangla version Rosenberg Self-Esteem Scale (RSES), and Student Adaptation to College Questionnaire (SACQ). The English versions of these outcome measures were translated and culturally adapted to the Bangladeshi context using TRAPD model and validated through a confirmatory factor analysis (CFA) using partial least square structural equation modeling (PLS-SEM). Data analysis using SPSS Statistics 27 and SmartPLS 4, included independent sample *t*-tests, one-way repeated measures ANOVA, repeated measures MANOVA, and mediation modeling. Results indicated that the SST intervention significantly reduced social anxiety and improved self-esteem and university adjustment in the EG compared to the WCG with moderate to large effect sizes. Both experimental and waitlist control groups experienced significant improvements in social anxiety (fear of negative evaluation, IIS discomfort), self-esteem, and university adjustment with large effect sizes. The interaction effect indicates that the experimental group showed greater improvements in studied variables from the pretest to post-test with large effect sizes. Additionally, self-esteem was found to mediate the relationship between social anxiety (fear of negative evaluation) and university adjustment. Therefore, SST is an effective intervention for reducing social anxiety and improving self-esteem and university adjustment among university students in Bangladesh. The study highlights the importance of addressing social anxiety and enhancing self-esteem to facilitate

better adjustment in university. Implications for practice and future research directions are discussed.

Keywords: social skills, social skill training, social anxiety, self-esteem, university adjustment

Chapter 1: Introduction

Introduction

In recent years, there has been increasing recognition of the challenges faced by university students in adapting to the academic, social, and emotional demands of higher education. Among these challenges, social anxiety, low self-esteem, and maladjustment to university life are prevalent issues that can significantly impact students' overall well-being and academic performance. In Bangladesh, as in many other countries, university life represents a significant period of transition and adaptation for students. The challenges associated with this transition can impact various aspects of students' lives, including their social interactions, emotional well-being, and academic performance. There is a dearth of research addressing the effectiveness of interventions aimed at addressing social anxiety, enhancing self-esteem, and promoting adjustment among university students in Bangladesh. Social Skill Training (SST) has emerged as a promising intervention approach that targets these areas simultaneously by equipping individuals with the necessary skills to navigate social situations confidently and effectively. However, the application of SST in the context of Bangladeshi university students remains relatively unexplored.

In Bangladesh, the educational system is divided into three major stages- primary, secondary, and higher education. Higher education in the country has three streams: general education encompassing pure and applied sciences, arts, business, and social sciences; madrasa education; and technology education. In the general education track, students move on to university-level studies, usually through a 4-year Honors Graduate program (Ministry of Education, 2017). According to University Grants Commission (UGC) of Bangladesh, there are 55 public universities, 114 private universities, and 3 international universities in Bangladesh. Though National University is a public university, it has around 2257 affiliated college/university

college for higher education. According to the classification system, public universities in Bangladesh are divided into five categories: general universities, universities of engineering and technology, universities of science and technology, agricultural universities, and medical universities. (UGC, 2016).

When college students begin their university education, it becomes crucial to understand the developmental challenges they may encounter during this period (Nordstrom, et al., 2014). Higher education often involves altering their social support network, as many young students find themselves distanced from their families and previous interpersonal relationships (Osse & Costa, 2011). In this scenario, students face numerous academic and personal challenges, and the presence of emotional distress may exacerbate the adaptive process, highlighting the need for preventive assessment of these factors (Bolsoni-Silva & Loureiro, 2014).

Two major problems of adolescents are anxiety and depression, with social problems being associated with the onset of adolescence (Valverde, Vitale, Sampaio, & Schoen, 2012). Furthermore, life events such as the entrance examination may increase anxiety (Soares & Martins, 2010). Some studies indicate that anxiety and social interaction issues can occur even before students enter university. However, these issues may be exacerbated by the new developmental tasks and challenges that young adults face in university life (Bolsoni-Silva & Loureiro, 2014).

According to recent research, university students are better able to handle the challenges of this time than the general population when it comes to mental health problem indicators (Bolsoni-Silva, 2011; Monteiro et al., 2008; Ribeiro & Bolsoni-Silva, 2011). This is especially true when it comes to depression and anxiety (Osada et al., 2010). It is important to remember that during this stage of life, many mental

illnesses, including social anxiety disorder, first show symptoms (American Psychiatric Association [APA], 2000).

1.1 Statement of the Problem

The transition to university life poses significant challenges for many students, often exacerbating issues such as social anxiety, low self-esteem, and difficulties in university adjustment. In Bangladesh, these challenges are particularly pronounced due to cultural and social factors that may hinder students' ability to adapt and thrive in a new academic environment. Despite the known benefits of social skill training (SST) in alleviating these issues, there is a lack of empirical evidence regarding its effectiveness among university-level students in Bangladesh. This study aims to address this gap by examining the impact of SST on social anxiety, self-esteem, and university adjustment among Bangladesh students.

1.2 Key Terms

1.2.1 Social Anxiety

Due to its high incidence and the major impairments, it produces in performance and social relations, social anxiety disorder (SAD), also known as social phobia (SP), is considered a significant mental health concern (Angélico et al., 2006). The Diagnostic and Statistical Manual of Mental Disorders – DSM-V (APA, 2013) states that a prominent dread or worry around one or more social situations in which the person may be subject to other people's scrutiny characterizes social anxiety disorder. Social contacts (e.g., conversing, meeting new people), being watched (e.g., eating or drinking), and public performances (e.g., giving a speech) are a few examples (APA, 2013).

Social anxiety is a chronic and specific fear of one or more social or functional situations that expose a person to strangers or views of others and believe that people

show anxiety symptoms under contemptuous conditions (Hampel et al., 2011). Up to 70% of patients seeking treatment may be those who experience social distress in a variety of social contexts. These patients have severe social and general anxiety, social inhibition, fear of negative evaluation, avoidance, fearfulness, and self-consciousness (Beidel & Turner, 2007). The degree to which a person suffers from social anxiety varies; some people only get anxious occasionally in the most stressful social performance scenarios, like public speaking, while others are paralyzed by the fear of being negatively judged in nearly every social circumstance (Lindsay & Powell, 2007).

Furmark (2000) states that talking on the phone, interacting with strangers, going to parties and social gatherings, being in a romantic relationship, interacting with authority figures, maintaining eye contact with strangers, and returning damaged goods to a store are among the interaction situations that people with SAD fear and typically avoid. Eating, drinking, writing, playing an instrument in front of others, giving a speech in public, using the restroom in public, and going into a room where others are already seated are among the performance scenarios that people are afraid of. Shepherd (2006) believes that social anxiety contains signs including palpitation, trembling, spasms, disturbed feeling and apprehension, dry throat, feeling cold and hot, blushing, hidrosis, stuttering, and anxiety. These symptoms must not be brought on by a substance's effects and must last for at least six months (APA, 2013).

SAD is the third most prevalent psychiatric disorder, with onset often in childhood or early teens (Judd, 1994; Schneier et al., 1992) and with an estimated lifetime prevalence rate is in the range of 4.2 to 16% (Anderson & Hope, 2009; Kessler et al., 1994; Furmark, 2002; Mahmoudi-Alami et al., 2010; Ruscio et al., 2008; Shepherd & Edelman, 2009; Stein, 2006). Anderson and Hope (2009) found

that the average age for the beginning of social phobia is from childhood to middle age. Although it has been diagnosed in children as young as 8 years old (Beidel & Turner, 1998), the normal onset age of SAD is roughly 13–15 years (Chartier et al., 2003).

A study suggests that if untreated, social anxiety tends to persist throughout adult life (Reich et al., 1994), with distressing and disabling consequences for sufferers. Several studies have shown that 40% of the people with SAD assume themselves as shy characters and 90% of them reported that they have been shy people during some periods of their lives. Other studies show that in general, 50-60% of people report that at least in one social situation have been involved in social phobia (Purdon et al., 2001). Researchers found that 20.1% of boys and 17.9% of girls suffer from severe anxiety (Deb et al., 2010) and women suffer from social anxiety more than men (Shepherd, 2006).

Several studies have shown that 19 to 22% of undergraduate students suffer from this disorder (Beidal et al., 1989; Shepherd & Edelman, 2009). Compared to older persons, young adults frequently exhibit greater lifetime and recent prevalence rates (Heimberg et al., 2000; Wittchen & Fehm, 2003). Regardless of racial or ethnic group affiliation, nationality, gender, or sexual orientation, social anxiety is a problem that many college students report having (Purdon et al.; Beidel & Turner, 1998; Pachankis & Goldfried, 2006). There are various reasons why social anxiety among college or university students is troublesome. Students with high social anxiety are more likely to drink alcohol (Neighbors et al., 2007; Oyefeso, 1991), and have loneliness (Bruch et al., 1988). High social anxiety of adults can lead to alcohol dependence (Kessler, 2003; Schneier et al., 1992), depression (Kessler, 2003; Schneier et al., 1992), and suicide (Cougle et al., 2009; Schneier et al., 1992;

Wunderlich et al., 1998). If left untreated, SAD is linked to functional impairment and a lower quality of life (Kessler et al., 2005; Wittchen & Fehm, 2003; Yonkers et al., 2001). It also seldom goes away. According to Turner et al. (1986), people who suffer from social anxiety frequently perform poorly at work and struggle to establish and sustain strong relationships.

Social anxiety is a function of different conditions, and its causes are more associated with current situations worsening social phobia (Babayi & Rahmati, 2014). Economical and familial conditions, social class, age, gender, parents and teachers' behavior, and so on, dramatically influence the severity of social anxiety (Ahmadi, 2003). Trauma (Shand et al., 2010) and early behavioral inhibition (Tillfors et al., 2009) are two potential reasons for social anxiety. Four categories of causal models were identified by Schlenker and Leary (1982): the personality trait approach (anxiety is caused by underlying individual differences), the social skills deficit model (social anxiety is caused by actual lack of adequate social skills), the cognitive self-evaluation model (an individual's perception of skill deficit is more important than actual skill level), and the classical conditioning model (anxiety is caused by pairings between aversive social consequences and neutral stimuli). According to an additional study, a mix of the variables may have a role in the etiology of social anxiety (Heimberg & Becker, 2002; Rapee & Spence, 2004). When compared to students with low social anxiety, individuals with high social anxiety reported lower levels of self-esteem (Stopa et al., 2010).

1.2.2 Self-Esteem

According to Baumeister (1993), self-esteem is defined as an all-encompassing sense of one's own value or sufficiency, or as universal sentiments of goodness, self-acceptance, and self-respect (Rosenberg, 1965). According to Harter

(1993, 1999; as cited in Nordstrom et al., 2014), self-esteem reflects an evaluative aspect of a person's self-representation and is significantly influenced by various domains and developmental factors. In terms of domain, Harter (1999) moved away from the unidimensional concept of "global" self-worth, which refers to an overarching sense of self. Instead, she highlighted that individuals assess distinct factors of themselves and their competencies (e.g., social, academic, athletic, physical attractiveness). This leads to profiles that showcase strengths and weaknesses, with each category being weighted differently based on its perceived importance to the individual. Izgic et al., (2004) found that the highest prevalence of social anxiety occurred among university students with low self-esteem (14.9%) while the lowest prevalence was among those with high self-esteem (6.6%). The students with low self-esteem reported a higher fear of negative evaluation, which, in turn, predicted social anxiety (Kocovski & Endler, 2000). Social anxiety and lower self-esteem may negatively affect university adjustment.

1.2.3 University Adjustment

The term "adjustment" is frequently interchangeably with "accommodation" and "adaptation" (Kyalo & Chumba, 2011). Specifically, it refers to the outcomes of equilibrium (Mates, 1990), which may be influenced by these processes. The state of equilibrium can be described as a balance in the person's own internal system (Osa-Edoh & Iyamu, 2012). College or university adjustment can be described as college or university achievement which covers students' academic achievement and personal growth (Arkoff, 1968). Baker and Siryk (1999) noted that there are two primary dimensions of adapting to college or university life: academic adjustment and social adjustment. Adjustment, for measurement, is generally divided into social and personal spheres of reference (Osa-Edoh & Iyamu, 2012).

One can ascertain an individual's own features of adjustment by questioning them about their feelings, attitudes, and cognitive and behavioral traits. Only the person experiencing the adjustment can subjectively evaluate the level of satisfaction and adjustment they have had. Three main factors are proposed by Rodrigue et al. (1993) to determine personal adjustment: relative freedom from crippling anxiety, sufficient frustration tolerance, flexibility to handle stress without excessive anxiety, and subjective satisfaction and contentment.

Everyone needs to learn how to adjust socially, but undergraduate students who are starting their individualization process at home should pay special attention to this (Kyalo & Chumba, 2011). The overall adjustment of students has been associated with their social adjustment to college and/or university. Encouraging students to participate in social activities on campus is one method to help them make connections. How well students function in their immediate surroundings, how often they engage in social activities, and how satisfied they are with different social components of their university experiences are all ways to measure social adjustment. Gerdes and Mallinckrodt (1994) noted that personal adaptation and integration into the social environment of the university are significant factors, being equally important as academic aspects throughout the students' academic journey.

As students go through the educational system, they face greater academic challenges and form new social networks. Many times, students doubt their capacity to fulfill these expectations. Helping students acquire coping mechanisms that will help them get over the obstacles they face at university is necessary. Academic adjustment, or how effectively students handle the demands of education, is measured by several factors, such as students' drive to finish their work, their ability to meet deadlines, their effort level, and their level of contentment with the learning

environment (Baker & Siryk, 1989). In their research on college and university students' academic adjustment, Russel and Petrie (1992) came to the conclusion that many high school academic achievers do not exhibit the same patterns of success in higher education.

According to Cook (1995), female students frequently find it more difficult to transition to the college or university setting. This might be because of how differently they developed. Compared to their male peers, female students are more likely to rely on relationships and socialization experiences to help them adjust to college and/or university. According to Arthur (1998), male and female students handle stress and despair in different ways. He added that men like to escape and isolate themselves to repress stress, whilst women prefer to place the blame on themselves. The absence of social ties in the setting may also contribute to female students' difficulties adjusting. The degree of adaptability exhibited by a woman can be positively correlated with her overall self-worth and confidence. According to Protinsky and Gilkey (1996), female students would also do better in perceived college and/or university adjustment if they felt that they had a strong sense of personal leadership.

According to Kyalo and Chumba (2011), socioeconomic characteristics have a major impact on how well university students adjust to social situations. On the other hand, compared to other students, a greater proportion of students from households with poor educational attainment, unskilled jobs, and low monthly incomes exhibited a high degree of social adjustment. On the other hand, there was no discernible impact of the same socioeconomic determinants on the degree of academic adjustment of university students. Additionally, he discovered a strong and favorable correlation between university students' social and intellectual adjustment and their degree of

interpersonal interactions. According to Moser and Moser (1963), a student's self-esteem is influenced by their interpersonal relationships, which in turn has an impact on how well they adjust to university life.

1.2.4 Social Skills

Social skills are a collection of mental, social, and interpersonal abilities that support an individual's healthy and productive existence by enabling them to make decisions with intention and to have strong communication, cognitive, and emotional abilities (World Health Organization [WHO], 1993). Social skills are the capacity to interact with people in a social setting while adhering to social norms and conditions, according to Combs and Slaby (1977). A complex combination of declarative and procedural understanding, knowledge, desire, the capacity to choose from a range of behavioral response options, and the ability to convey a certain social conduct characterizes socially proficient communications (Segrin, 2008). According to Del Prette & Del Prette (2001), social skills are several social behavior classes that a person possesses in order to effectively handle the demands of interpersonal settings. According to Argyris (1965, 1968), social skills are interpersonal activities that help a person function well in a big group of people.

Libet and Lewinsohn (1973) define social skill as the 'complex ability both to emit behaviors which are positively or negatively reinforced, and not to emit behaviors which are punished or extinguished by others'. Hersen and Bellack (1977) state that 'the overriding factor is the effectiveness of behavior in social interactions; however, determination of effectiveness depends on the context of the interaction'. Trower et al., (1978) conceptualize man as 'pursuing social and other goals, acting according to rules and monitoring his progress in the light of continuous feedback from the environment'.

Angélico et al. (2013) define social skills indicators as follows: (a) social performance, which is defined as the molecular and molar behavioral performance displayed during social interaction; (b) academic performance, which is measured by the academic success and drop-out rate; (c) communication skills, which are defined as the verbal content and speaking function displayed in the interaction with a romantic partner; (d) interpersonal perceptions, which are defined as social judgments, self-perceptions, meta-perceptions and perceptions of others, interpretation of social events, and processing of facial expressions; and (e) social competence, which is defined as the degree of proficiency with which an individual's verbal and nonverbal behavioral classes are articulated in successful social performance.

Rinn and Markle (1979) considered social skills to be verbal and nonverbal actions that influence the individuals' counterparts during their interaction. Social skills include verbal response skills, paralinguistic skills, and nonverbal skills (Prasko, 1996). According to Wilkinson and Canter (1982), social skills consist of verbal and nonverbal behaviors by which people communicate with others. Nonverbal behaviors include facial expression; gaze; posture and gait; gesture; proximity; touch; personal appearance; and vocal cues. On the other hand, verbal behaviors include verbal or semantic content of speech, words, and sentences; conversation skills; listening and talking conversation; opening, maintaining, and ending conversation; and assertive behaviors. Assertive behaviors include standing up for your rights; making a request or asking someone out; coping with refusal; refusing a request; showing appreciation; and making apologies.

According to Angélico et al. (2013), social skills deficiencies are thought to affect social functioning and an individual's capacity for adaptation. This has several

consequences and impairments, particularly for performance and social interactions. A) acquisition deficit, which is characterized by the absence of social skills before environmental demands; b) performance deficit, which is characterized by the occurrence of a particular ability less frequently than expected for environmental demands; and c) fluency deficit, which is exhibited by the occurrence of abilities less proficiently than expected for social demands, are the types of deficits that the individual may display in his or her repertoire of social skills.

1.2.5 Social Skill Training (SST)

Social skill training should be made available to those who exhibit social skills deficiencies, such as difficulties communicating with others, social disengagement, and difficulties with everyday life activities (Vyskocilova & Prasko, 2012). Based on social learning theory, social skill training is a collection of methodical approaches and procedures that help teach interpersonal skills (Solomon & Cullen, 2008). As per Wilkinson and Canter (1982), social skill training has been devised as a systematic approach to instruct social interaction skills. The core ideas behind social skills education were established in the 1970s and haven't evolved all that much since then (Vyskocilova & Prasko, 2012). Social skill training programs result from a synthesis of the findings of social psychologists (i.e., Bandura, 1969, 1977) with the training procedures developed by behavioral psychologists (i.e., Wolpe, 1958, 1969; Wolpe & Lazarus, 1966). Social skill training emphasizes the value of behavioral practice and skill training, based on the principles of social learning (Prasko, 1996; Drake & Bellack, 2005).

Social skill training can be used in a one-to-one or group setting (Wilkinson & Canter, 1982). The benefits listed below justify why SST is more frequently used in groups than in individuals (Angélico et al., 2013): It has several benefits, including (a)

time savings for the therapist; (b) increased variety in behavior rehearsal with a large number of participants; (c) quick generalization of the gains and increased quantity of useful feedback for the trained performances; (d) experience with a wider range of problem-situations and increased support for problem-solving; (e) more models beyond those provided by the therapist; and (f) encouragement of learning to distinguish between desired and undesired possible consequences for the emission of newly learned behaviors.

The SST groups are formed by four to ten participants (Angélico et al., 2013). But, with standardized programs numbers can vary according to population and the number of therapists available. Less than six makes rather a small group and over fourteen is probably too large (Wilkinson & Canter, 1982). Training sessions are typically held one to five times per week (Vyskocilova & Prasko, 2012). As to the duration of sessions, they varied between 90 and 120 minutes (Angélico et al., 2013), but they can last up to 2 hours (Wilkinson & Canter, 1982). The total number of sessions can range from 3 to 30 or more (Wilkinson & Canter, 1982). The training sessions can be conducted by one or more therapists (Angélico et al., 2013). The duration from the time of termination of the training to follow-up can range from 3 to 12 months (Angélico et al., 2013).

The techniques used in SST programs and common to all clinical intervention studies (Angélico et al., 2013): behavioral rehearsal, modeling, homework assignment, feedback, reinforcement, self-monitoring, bibliotherapy, successive approximations, instructions, educational phase, imitative learning, educational phase, functional analysis, and problem-solving strategies. The actual methods employed in social skill training are a combination of the following procedures and principles (Wilkinson & Canter, 1982): instruction; modeling; behavioral rehearsal (role-play);

warm-up exercises; reinforcement (feedback and rewards); and homework assignments.

Social skill training is concerned with changing social behavior (Wilkinson & Canter, 1982). This approach doesn't directly try to alter the user's experience in any other way. But when he or she gains social competence, other dimensions can shift. The more adept at social communication s/he develops, the less nervous, unhappy, inadequate, and confident s/he may feel. Vyskocilova and Prasko (2012) listed a few goals of social skill training, including enhancing social skills, raising self-worth and respect, enhancing problem-solving abilities, regulating emotions, increasing stress and frustration tolerance, altering cognitive processes, and emphasizing individual rights and objectives.

1.3 Literature Review

This section provides a comprehensive review of relevant literature related to the objectives of the present study, which aims to investigate the effect of SST on social anxiety, self-esteem, and university adjustment among university students. The review encompasses studies that explore changes in these variables between experimental and control groups, as well as within-group changes over different time points. Additionally, it examines the interaction effect of groups and time points and investigates the mediation effect of self-esteem on the relationship between social anxiety and university adjustment.

At the beginning of the first semester, social anxiety was associated with higher levels of homesickness (Urani et al., 2003). According to Strahan (2003), social anxiety was linked to academic difficulties like poorer grades, absenteeism from class, and a fear of public speaking. In men, it was also associated with lower self-esteem and a lower grade point average, or GPA (di Maria & di Nuovo, 1990).

According to Strahan's (2003) theory, social anxiety may have an indirect impact on academic achievement and perseverance because of its connection to college adjustment. Individuals with lifetime rates of social phobia were more likely to quit school early, and adolescents who expressed dread of communicating with others were more likely to drop out of high school and avoid post-secondary education (Van Ameringen et al., 2003).

While lower self-esteem has been linked to worse social adjustment, higher global self-esteem has been demonstrated to be essential for the transition to college (Hickman et al., 2000). (Rice, 1999). Like this, kids' overall, academic, and social adjustment are all correlated with higher global self-esteem (Aspinwall & Taylor, 1992; Elias et al., 2009; Friedlander et al., 2007; Pritchard et al., 2007; Salami, 2011).

The individuals who have some social skill deficits may suffered from social anxiety disorder (Alden & Mellings, 2004; Angélico et al., 2013; Baker & Edelmann, 2002; Bögels et al., 2002; Bolsoni-Silva & Loureiro, 2014; Christensen et al., 2003; Horley et al., 2003; Levitan et al., 2008; Sheffer et al., 2001; Stopa & Clark, 2000; Strahan, 2003; Thompson & Rapee, 2002; Wenzel et al., 2005) and low self-esteem (Pope et al., 2006; Parcover et al., 2006; Sarkova et al., 2003). Social skills deficits can lead to university maladjustment (Grover, 2015; Strahan, 2003).

1.3.1 Effectiveness of SST for Students' Social Anxiety, Self-Esteem, and University Adjustment

Several forms of behavior and cognitive-behavior therapy have demonstrated to be helpful for many persons with social anxiety disorder (SAD), including: exposure-based treatments (Emmelkamp et al., 1985; Fava et al., 1989); acceptance and commitment therapy or ACT (Hayes et al., 1991); cognitive interventions such as rational emotive behavior therapy (DiGiuseppe et al., 1990; Mattick & Peters, 1988),

self-instructional training (DiGiuseppe et al., 1990; Emmelkamp et al., 1985; Jerremalm et al., 1986), cognitive behavior group therapy or CBGT (Heimberg, 1991; Heimberg & Becker, 2002); social skill training (Stravynski et al., 1982; Wilkinson & Canter, 1982; Wlazlo et al., 1990); exposure plus social skill training (Turner et al., 1994); and relaxation training (Jerremalm et al., 1986; Öst, Jerremalm, & Johansson, 1981).

Even though a number of studies (Chambless & Ollendick, 2001; Chambless et al., 1997; Hope et al., 1995; Woody & Adessky, 2002; Herbert et al., 2004; Heimberg et al., 1990; Heimberg et al., 1998; Liebowitz et al., 1999) attest to the effectiveness of CBGT for SAD, social skill training has been emphasized heavily since the beginning of behavioral therapy (van Dam-Baggen & Kraaimaat, 2000a). Numerous populations of socially anxious adults have benefited from SST in both individual and group settings (Corrigan, 1991; Donahoe & Driesenga, 1988; Goldsmith & McFall, 1975; Hayes, Halford, & Varghese, 1995; Monti et al., 1980; Trower et al., 1978; van Dam-Baggen & Kraaimaat, 1986).

SST is also beneficial for SAD, according to several studies, either when used alone or in conjunction with other therapies (Bishop, 2003; Mersch et al., 1989; Stravynski et. Al., 1982; Wilkinson & Canter, 1982; Wlazlo et al., 1990; van Dam-Baggen & Kraaimaat, 2000b) or as part of a multi-component treatment package that integrates SST with expose (Beidel et al., 2014; Turner et al., 1995; Turner et al., 1994) or SST with CBGT (Espada et al., 2002; Franklin et al., 2001; Herbert et al., 2002; Herbert et al., 2005; van Dam-Baggen & Kraaimaat, 2000a) or SST with supportive therapy (Cottraux et al., 2000). Most of the research, including comparisons with other treatment modalities such as CBGT and supportive therapy, demonstrated the efficacy of SST (Angélico et al., 2013). Many studies demonstrated

that SST (especially assertiveness training) is effective in increasing the self-esteem of individuals (Kashani & Bayat, 2010; Mahmoodi et al., 2007; Mahmoud & Hamid, 2013; Nisy & Yeylag, 2001; Temple & Robson, 1991; Vehr & Kaufman, 1987).

1.3.2 Comparative Analysis of Changes between Experimental and Control Groups

Some studies have examined the differential effects of SST interventions on social anxiety, self-esteem, and university adjustment between experimental and control groups. For instance, Shitavvagol et al., (2022) conducted an experimental study with pretest-post-test control group design and found significant differences in post-test anxiety and self-esteem scores between experimental and control groups. Parray and Kumar (2022) conducted a quasi-experimental study on the effectiveness of assertiveness training (part of SST) and found that assertiveness was efficacious in raising students' assertiveness and self-esteem. Similarly, Ebrahim et al., (2022) conducted a quasi-experimental study with one group pretest-post-test design and found that following life skills training participants' assertiveness and self-esteem significantly improved.

1.3.3 Within-Group Comparative Analysis of Changes Over Time

A study investigating within-group changes over different time points has also contributed valuable insights into the efficacy of SST intervention. For instance, In a 2009 study, Yadav and Iqbal examined the effects of life skill training on teenagers, finding that post-condition improvements were substantial in self-esteem, emotional adjustment, educational adjustment, and overall adjustment. But in that study, there was no discernible difference between the pre-and post-conditions concerning social adjustment.

1.3.4 Investigation of Interaction Effect of Groups and Time Points

The interaction effect of groups and time points in influencing social anxiety, self-esteem, and university adjustment scores has not been explored in any studies. However, a study showed the interaction effect of groups and time points in influencing social skills. For example, Platos et al., (2023) conducted a randomized controlled trial of SST for adolescents with autism spectrum disorder and found statistically significant interactions (group x time) for adolescents' self-reported knowledge about social skills.

1.3.5 Assessment of Mediation Effect of Self-Esteem

A study has investigated the mediation effect of self-esteem in the relationship between social anxiety and university adjustment scores among university students. For example, Nordstrom et al., (2014) found that self-esteem mediated relations between social anxiety and university adjustment. The association between social anxiety and academic adjustment was also found to be mediated by academic self-esteem, the relationship between social anxiety and social adjustment by social self-esteem, and the relationship between social anxiety and institutional adjustment by global self-esteem.

The literature reviewed in this section underscores the importance of examining changes in social anxiety, self-esteem, and university adjustment scores between experimental and control groups, as well as within-group changes over different time points. Moreover, investigating the interaction effect of groups and time points and assessing the mediation effect of self-esteem can provide valuable insights into the mechanisms underlying the efficacy of SST interventions among university students. By addressing these objectives, the present study aims to contribute to the

existing literature and inform the development of effective intervention strategies to support the psychological well-being and academic success of university students.

1.4 Research Questions of the Study

Despite the growing awareness of the psychological challenges faced by university students, there remains a gap in understanding the effectiveness of interventions targeting social anxiety, self-esteem, and university adjustment in the Bangladeshi context. Existing research primarily focuses on Western populations, and the applicability of findings to non-Western cultural contexts, such as Bangladesh, is unclear. Furthermore, there is limited empirical evidence on the differential effects of interventions, such as SST, on these outcomes among Bangladeshi university students. Thus, this study seeks to address the following research questions:

1. What is the effect of SST on social anxiety, self-esteem, and university adjustment among students at the university level in Bangladesh?
2. How do changes in social anxiety, self-esteem, and university adjustment scores differ between experimental and control groups at different time points?
3. What are the within-group changes in social anxiety, self-esteem, and university adjustment scores over pretest, post-test, and follow-up time points?
4. Is there an interaction effect of group (experimental vs. control) and time points on social anxiety, self-esteem, and university adjustment scores?
5. Does self-esteem mediate the relationship between social anxiety and university adjustment scores in the experimental and control groups?

1.5 Rationale of the Study

This study has several implications for theory, practice, and policy in the field of mental health and higher education in Bangladesh. Firstly, it contributes to the theoretical understanding of social anxiety, self-esteem, and university adjustment by

examining the effectiveness of an evidence-based intervention, SST, in addressing these issues among Bangladeshi university students. Secondly, the findings of this study can inform the development of culturally sensitive interventions tailored to the needs of Bangladeshi students, thereby promoting their mental health and well-being. Thirdly, the study may provide insights for policymakers and university administrators to implement preventive and supportive measures to enhance the psychosocial adjustment of students in higher education settings.

1.6 Objectives and Hypotheses of the Present Study

The main objective of the study was to examine the effect of social skill training intervention on the levels of social anxiety, self-esteem, and university adjustment among university-level students in Bangladesh. The specific objectives and corresponding hypotheses are outlined below:

Objective 1

To compare the changes in social anxiety, self-esteem, and university adjustment between the experimental and waitlist control groups at different time points.

Hypothesis 1.1 ($H_{1.1}$). There will be no significant differences in social anxiety, self-esteem, and university adjustment between the experimental and waitlist control groups at the pretest time-point.

Hypothesis 1.2 ($H_{1.2}$). The experimental group will show a significant decrease in social anxiety (indicated by lower scores on the BFNE and IIS: Discomfort & Frequency) at the post-test compared to the waitlist control group at the post-wait test.

Hypothesis 1.3 ($H_{1.3}$). The experimental group will show a significant increase in self-esteem (indicated by lower scores on the RSES) at the post-test compared to the waitlist control group at the post-wait test.

Hypothesis 1.4 ($H_{1.4}$). The experimental group will show a significant increase in university adjustment (indicated by lower scores on the SACQ) at the post-test compared to the waitlist control group at the post-wait test.

Hypothesis 1.5 ($H_{1.5}$). There will be no significant differences in social anxiety, self-esteem, and university adjustment between the experimental and waitlist control groups at the post-test (after the intervention).

Hypothesis 1.6 ($H_{1.6}$). There will be no significant differences in social anxiety, self-esteem, and university adjustment between the experimental and waitlist control groups at the follow-up test.

Objective 2

To compare the changes in social anxiety, self-esteem, and university adjustment among the pretest, post-test, and follow-up time points within experimental and waitlist control groups.

Hypothesis 2.1 ($H_{2.1}$). Social anxiety will significantly decrease from the pretest to the post-test and will be maintained at follow-up within the experimental group.

Hypothesis 2.2 ($H_{2.2}$). Self-esteem will significantly increase (indicated by lower scores on RSES) from the pretest to the post-test and will be maintained at follow-up within the experimental group.

Hypothesis 2.3 ($H_{2.3}$). University adjustment will significantly increase (indicated by lower scores on the SACQ) from the pretest to the post-test and will be maintained at follow-up within the experimental group.

Hypothesis 2.4 ($H_{2.4}$). There will be no significant changes in social anxiety, self-esteem, and university adjustment within the waitlist control group from the pretest to the post-wait test.

Hypothesis 2.5 ($H_{2.5}$). Social anxiety will significantly decrease from the post-wait test to the post-test and will be maintained at the follow-up test within the waitlist control group after receiving the intervention.

Hypothesis 2.6 ($H_{2.6}$). Self-esteem will significantly increase (indicated by lower scores on RSES) from the post-wait test to the post-test and will be maintained at the follow-up test within the waitlist control group after receiving the intervention.

Hypothesis 2.7 ($H_{2.7}$). University adjustment will significantly increase (indicated by lower scores on the SACQ) from the post-wait test to the post-test and will be maintained at the follow-up test within the waitlist control group after receiving the intervention.

Objective 3

To investigate the interaction effect of groups and time points on social anxiety, self-esteem, and university adjustment.

Hypothesis 3.1 ($H_{3.1}$). There will be a significant interaction effect on social anxiety between the groups (experimental vs. waitlist control) and time points (pretest vs. post-test/post-wait test).

Hypothesis 3.2 ($H_{3.2}$). There will be a significant interaction effect on self-esteem between the groups (experimental vs. waitlist control) and time points (pretest vs. post-test/post-wait test).

Hypothesis 3.3 ($H_{3.3}$). There will be a significant interaction effect on university adjustment between the groups (experimental vs. waitlist control) and time points (pretest vs. post-test/post-wait test).

Objective 4

To assess the group-wise mediation effect of self-esteem in the relationship between social anxiety and university adjustment in the experimental and waitlist control groups.

Hypothesis 4.1 ($H_{4.1}$). Self-esteem will mediate the relationship between social anxiety and university adjustment in the experimental group.

Hypothesis 4.2 ($H_{4.2}$). Self-esteem will mediate the relationship between social anxiety and university adjustment in the waitlist control group after receiving the intervention.

Hypothesis 4.3 ($H_{4.3}$). Self-esteem will mediate the relationship between social anxiety and university adjustment in the complete data set.

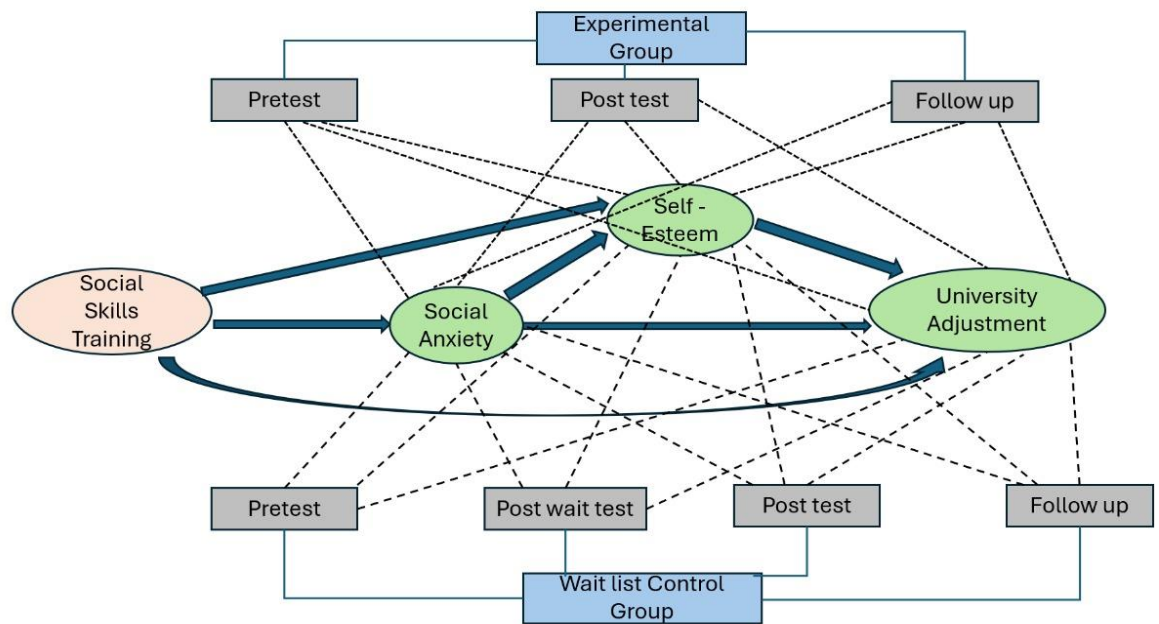
1.7 Conceptual Framework of the Study

Figure 1 shows a comprehensive framework for the study to assess the effect of social skill training on social anxiety, self-esteem, and university adjustment among university-level students in Bangladesh. This framework provides a visual

representation of the study's design, variables, hypotheses, and proposed relationships, facilitating a better understanding of the research scope and objectives.

Figure 1

Conceptual Framework of the Present Study



1.8 Operationalizations of Variables

In this study, key variables – social skill training, social anxiety, self-esteem, and university adjustment – are operationalized to ensure they can be accurately measured and analyzed. Operationalization involves defining each variable in measurable terms and selecting appropriate instruments to capture these variables effectively. Below are the details of how each variable is operationalized:

Independent Variable

Social Skill Training (SST). SST is a structured intervention designed to enhance social interaction skills (Wilkinson & Canter, 1982). The training lasts for four weeks, comprising eight sessions, with two sessions per week. Each session lasts

between 120 to 150 minutes. It uses several techniques to improve verbal, non-verbal communication, and assertive communication. The major methods or techniques used in SST are instruction, modelling, role-play, warm-up exercises, reinforcement, and homework assignments. SST is the independent variable being manipulated to determine its effect on the dependent variables.

Dependent Variables

Social Anxiety. Social anxiety is defined as the fear or apprehension experienced by individuals in social situations (van Dam-Baggen & Kraaimaat, 1999), characterized by concerns about being negatively evaluated by others (Leary, 1983). This construct is measured by two measuring scales, i.e., Brief Fear of Negative Evaluation (BFNE) Scale and Inventory of Interpersonal Situations: Discomfort & Frequency.

BFNE scale originally contained 12 items. After validation in this study, 10 items were retained. Respondents rate each item on a Likert scale ranging from 1 (not at all characteristic of me) to 5 (extremely characteristic of me). In this scale, higher scores indicate higher levels of fear of negative evaluation (social anxiety). The scale's reliability and validity have been established through rigorous assessments for the Bangladeshi context, ensuring accurate measurement.

IIS (Discomfort & Frequency) scales consist of the same 35 items regarding social situations with the amount of discomfort and frequency of responses. It has originally five sub-scales covering 26 items and 9 other items. After conducting principal component analysis and validation in this study, 28 items were retained and by adding additional two sub-scales the total number of sub-scales was seven. They are: (a) Giving criticism, (b) Expressing opinions, (c) Giving compliments, (d) Initiating

contacts, (e) Positive self-evaluation, (f) Self-assertions, and (g) Expressing feelings and desires. All sub-scales have sufficient reliability and validity and are summative with higher scores indicating greater social anxiety on the Discomfort scale and greater frequency of social responses on the Frequency scale. Higher scores on the IIS Discomfort and Frequency scale indicate higher levels of social anxiety about interpersonal situations.

Self-Esteem. Self-esteem refers to an individual's global feelings of self-worth (Baumeister, 1993) or generalized feelings of self-acceptance, goodness, and self-respect (Rosenberg, 1965). It was measured by the Rosenberg Self-Esteem Scale (RSES). It consisted of originally 10 items, but six items were retained after validation in this study. Respondents rate each item on a Likert-type scale from 1 (strongly agree) to 4 (strongly disagree). In this study, higher scores on the scale reflect lower levels of self-esteem. The RSES is a widely used and validated instrument for measuring self-esteem across different cultures, including the Bangladeshi population.

University Adjustment. University adjustment is the degree to which students successfully adapt to various demands of university life, including academic, social, personal-emotional, and institutional aspects (Baker & Siryk, 1999). This construct was measured by the Student Adaptation to College Questionnaire (SACQ). This scale has four sub-scales (academic, social, personal-emotional, institutional adjustment) and originally had 67 items; but finally, 43 items were retained after validation in this study. Participants rate each item on a 9-point scale ranging from 1 (applies very closely to me) to 9 (does not apply to me at all). Higher scores on each sub-scale indicate lower levels of adjustment in that specific area. The SACQ has

been validated in this study for use in the Bangladeshi context, ensuring its reliability and validity.

Groups

- A. Experimental Group: Received the social skill training (SST) during 4-weeks.
- B. Waitlist Control Group: Did not receive the SST initially but received it after the post-wait test period (4 weeks) for ethical reasons.

Timeline of Assessments

- 1. Pretest: Baseline assessments of social anxiety, self-esteem, and university adjustment in both experimental and waitlist control groups.
- 2. Post-wait test: For the waitlist control group before receiving the intervention.
- 3. Post-test: After the last training session for both groups.
- 4. Follow-up test: One month after the post-test for both groups.

Comparison of Scores

Between Groups: Comparing changes in scores between the experimental and waitlist control groups at each time point.

Within Groups: Comparing changes in scores within each group across different time points (pretest, post-wait test/post-test, follow-up test).

Interaction Effect

Assessing if the effect of the intervention (group) on social anxiety, self-esteem, and university adjustment scores changes over time (time points).

Mediation Effect

Self-esteem acts as a mediator in the relationship between social anxiety and university adjustment. This mediation effect was examined within both groups and in the complete group.

By operationalizing these variables clearly, the study ensures consistent and accurate measurement, enabling meaningful analysis of the impact of social skill training on social anxiety, self-esteem, and university adjustment among university-level students in Bangladesh.

Chapter 2:

Method

Method

2.1 Study Design

This study employed a quasi-experimental randomized waitlist control pretest-post-test design to investigate the impact of social skill training on university-level students' social anxiety, self-esteem, and university adjustment. Participants were randomly assigned to either the treatment or experimental group, which received the social skill training intervention for four weeks, or the waitlist control group, which waited for four weeks before receiving the intervention. The duration of the training period was four weeks comprising a total of eight sessions, two session per week, and each session took 120-150 minutes. The study design followed is presented in Table 1:

Table 1

Design of the Present Study

Random allocation with 10-14 in each group	Experimental Group	T _{1e} (Pre-test)	X _e (4 weeks training)	T _{2e} (Post-test)	T _{3e} (Follow up after 1-month)		
	Wait-List Control Group	T _{1w} (Pre-test)	4 weeks wait	T _{2w} (Post-wait test)	X _w (4 weeks training)	T _{3w} (Post-test)	T _{4w} (Follow up after 1-month)

The research commenced with baseline assessments (pretest) of social anxiety, self-esteem, and university adjustment in both groups. Following this, the experimental group has undergone the prescribed social skill training program. Post-test assessments for the experimental group and post-wait test assessments for the waitlist control group were taken after the last training session. Then, the waitlist control group underwent the prescribed social skill training program, and post-test

assessments were taken during the last training session. Subsequently, a follow-up assessment was administered after one month to both groups.

2.2 Study Settings

The study was conducted between January – April 2023 at eight different institutions, comprising three public universities (University of Dhaka, Jahangirnagar University, Jagannath University), three private universities (Daffodil International University, Eastern University, Primeasia University), and two university-affiliated colleges (Govt. Titumir College and Shaikh Burhanuddin Post Graduate College). Govt. Titumir College is a government college affiliated with the University of Dhaka, while Shaikh Burhanuddin Post Graduate College is a private college affiliated with the National University of Bangladesh.

2.3 Sample

2.3.1 Sample Size Calculation

The sample size for this study was determined using G*Power software (Faul, et al., 2007) to ensure sufficient statistical power for detecting the effect of social skill training. A priori G*Power analysis was conducted based on a medium effect size ($f^2 = .0625$), a power of .08, and an alpha of .05. For repeated measures MANOVA with two predictors (group and time), four groups (2 groups and 2-time points) and three outcome measures, the present study needed at least 113 participants.

2.3.2 Recruitment and Inclusion Criteria of Participants

University-level students from various institutions volunteered to participate in this study after encountering recruitment notices in a Social Skill Training Program by the psychology departments on notice boards, social media, or on the websites of the respective institutions. They underwent a screening process using a Google Form link or QR code, based on the DSM-V Severity Measure for Social Anxiety Disorder

(Craske et. al., 2013). Inclusion criteria comprised (1) a diagnosis of social anxiety at mild, moderate, or severe levels; (2) ages between 19 and 25 years old; and (3) a commitment to continuous participation in the study. Exclusions applied to individuals with (1) a history of a severe mental illness except social anxiety disorder, or (2) clinically significant visual, hearing, or physical impairments that hindered participation in this intervention study.

Table 2

Distribution of Participants in Experimental and Waitlist Control Groups Based on Institute and Gender

Type of Institute	Name of Institute & n		Experimental Group (n = 93)		Waitlist Control Group (n = 79)		Total (N = 172)	
			Male	Female	Male	Female	Male	Female
Public University (n = 65)	University of Dhaka	23	6	4	7	6	13	10
	Jahangirnagar University	22	5	8	4	5	9	13
	Jagannath University	20	3	8	5	4	8	12
Private University (n = 61)	Daffodil International University	19	9	2	6	2	15	4
	Eastern University	23	2	10	6	5	8	15
	Primeasia University	19	8	3	3	5	11	8
Affiliated College (n = 46)	Govt. Titumir College	23	7	4	10	2	17	6
	Shaikh Burhanuddin Post Graduate College	23	8	6	5	4	13	10
Total (N = 172)			48	45	46	33	94	78

2.3.3 Sampling Technique

Participants for this study were university-level students selected randomly from the conveniently selected eight institutions. After applying the inclusion and exclusion criteria, 40 eligible participants (20 male students and 20 female students) were randomly selected from the pool of eligible students in each institution.

Subsequently, these students were further randomly assigned to either the experimental group (10 male and 10 female students) or the waitlist control group (10 male and 10 female students). Therefore, each initial experimental group and waitlist control group comprised 20 students (10 male and 10 female students). Ultimately, within the eight institutions, the researcher formed 16 groups in total (8 experimental and 8 waitlist control groups), each comprising 8 to 14 students after accounting for any dropouts, presented in Table 2. Randomization was conducted using SPSS Statistics 27 and research assistants as SST trainers or therapists were unaware of the randomization algorithm and blind to the assignments of the participants in the two conditions during the study.

2.3.4 Socio-Demographic Properties of Participants

Table 3 presents the results of various demographic variables for a total of 172 participants, divided into an experimental group ($n = 93$) and a waitlist control group ($n = 79$). The distribution of participants across academic years was fairly balanced, with no significant difference between the experimental and control groups. But the majority of participants (32.56%) were in the 2nd year. Participants' residential status showed no significant difference between the two groups. The largest proportion (54.07%) lived at home, with similar percentages in both groups. Most participants (83.14%) came from nuclear families, with no significant differences between the groups.

The majority of participants (93.02%) were Muslim, and there was no significant difference between the groups in terms of religious affiliation. The larger portion (60.47%) of participants' upbringing place was urban, but there were no significant differences between the groups. The participants' severity of social anxiety was divided into mild (47.67%), moderate (41.86%), and severe (10.47%) categories.

There were no significant differences between the groups in terms of the distribution of social anxiety severity levels. The mean age and GPA/CGPA were similar between the experimental and control groups, with no statistically significant differences.

Table 3*Demographics Characteristics of Participants at Baseline*

Variable	Total (N = 172)		Experimental Group (n = 93)		Wait List Control Group (n = 79)		χ^2	p
	n	%	n	%	N	%		
Academic Year								
1st Year	44	25.58	27	29.03	17	21.52	1.884	.757
2nd Year	56	32.56	29	31.18	27	34.18		
3rd Year	30	17.44	14	15.05	16	20.25		
4th Year	30	17.44	17	18.28	13	16.46		
Masters	12	6.98	6	6.45	6	7.59		
Residential Status								
Hall	38	22.09	21	22.58	17	21.52	0.611	.737
Mess	41	23.84	20	21.51	21	26.58		
Home	93	54.07	52	55.91	41	51.90		
Family Type								
Nuclear Family	143	83.14	76	81.72	67	84.81	0.112	.738
Combined Family	29	16.86	17	18.28	12	15.19		
Religion								
Muslim	160	93.02	86	92.47	74	93.67	0.857	.651
Hindu	11	6.40	6	6.45	5	6.33		
Buddhism	1	0.58	1	1.08	0	0.00		
Brought up Place								
Urban	104	60.47	55	59.14	49	62.03	1.349	.509
Semi-Urban	30	17.44	19	20.43	11	13.92		
Rural	38	22.09	19	20.43	19	24.05		
Severity of Social Anxiety								
Mild	82	47.67	48	51.61	34	43.04	1.539	.463
Moderate	72	41.86	35	37.63	37	46.84		
Severe	18	10.47	10	10.75	8	10.13		
	M	SD	M	SD	M	SD	t	p
Age	21.78	1.47	21.77	1.42	21.78	1.53	-0.047	.963
GPA/CGPA	3.57	0.73	3.56	0.77	3.60	0.67	-0.309	.758

Table 4*Participants' Parental Education, Profession and Socio-Economic Status*

Variable	Total (N = 172)		Experimental Group (n = 93)		Wait List Control Group (n = 79)		χ^2	p
	n	%	n	%	N	%		
Father's Education								
Class 0-5	29	17.68	17	19.10	12	16.00	8.717	.121
Class 6-10	16	9.76	13	14.61	3	4.00		
SSC	31	18.90	12	13.48	19	25.33		
HSC	22	13.41	10	11.24	12	16.00		
Honors	27	16.46	15	16.85	12	16.00		
Masters	39	23.78	22	24.72	17	22.67		
Mother's Education								
Class 0-5	22	13.58	12	13.79	10	13.33	1.82	.873
Class 6-10	27	16.67	16	18.39	11	14.67		
SSC	43	26.54	20	22.99	23	30.67		
HSC	28	17.28	17	19.54	11	14.67		
Honors	23	14.20	12	13.79	11	14.67		
Masters	19	11.73	10	11.49	9	12.00		
Father's Profession								
Business	68	40.24	34	37.78	34	43.04	5.326	.07
Job	55	32.54	25	27.78	30	37.97		
Others	46	27.22	31	34.44	15	18.99		
Mother's Profession								
Housewife	146	86.39	77	85.56	69	87.34	0.908	.635
Job	22	13.02	12	13.33	10	12.66		
Others	1	0.59	1	1.11	0	0.00		
Socio-Economic Status								
Lower Class	8	4.65	4	4.30	4	5.06	1.873	.599
Lower-Middle Class	44	25.58	21	22.58	23	29.11		
Middle Class	110	63.95	61	65.59	49	62.03		
Upper-Middle Class	10	5.81	7	7.53	3	3.80		

Table 4 indicates that the participants' fathers had varying levels of education, ranging from class 0-5 to master. There were no statistically significant differences in the father's education levels between the experimental and control groups. Similar to

the father's education, the mother's education levels varied across the sample. Again, there were no significant differences in mother's education levels between the groups. The participants' fathers had diverse professions, including business, jobs, and others. There were no statistically significant differences in father's professions between the two groups. The majority of mothers (86.39%) were housewives, with a smaller number engaged in jobs or other professions. There were no significant differences in mother's professions between the two groups. According to socio-economic status, most participants (63.95%) came from middle-class families. The distribution of socio-economic status was similar between the experimental and control groups, with no statistically significant differences.

In summary, the results indicate that the experimental and waitlist control groups were well-matched across various socio-demographic variables, making them suitable for the study's comparison of the impact of social skill training on social anxiety, self-esteem, and university adjustment. This balance helps ensure that these socio-demographic factors do not confound this intervention study.

2.4 Used Measures

Two types of measures were used in the present study-eligibility and outcomes measures along with a personal information form. As an eligibility measure, Severity Measure for Social Anxiety Disorder (Social Phobia)-Adult was used. On the other hand, as outcome measures four measuring scales were used: Brief Version of the Fear of Negative Evaluation (BFNE) Scale, Inventory of Interpersonal Situations (IIS), Rosenberg Self-Esteem Scale (RSES), And Student Adaptation to College Questionnaire (SACQ).

2.4.1 Eligibility Measure

2.4.1.1 Severity Measure for Social Anxiety Disorder (Social Phobia)-

Adult. The severity measure for social anxiety disorder (social phobia) in adults was originally developed by Craske et. al., (2013). In this study, the Bangla-translated version (by the researcher) was used as an eligibility measure for participants to participate in the study. This 10-item measure assesses the severity of symptoms of social anxiety in individuals aged 18 and older (Craske et. al., 2013), including the cognitive, physiological, and avoidance behavior symptoms of social anxiety (LeBeau et. al., 2016).

On a 5-point rating system, respondents indicate the frequency with which they have encountered each symptom in social settings during the previous week (0=Never; 1=Occasionally; 2=Half of the time; 3=Most of the time; and 4=All of the time). Higher total scores indicate more severe cases of social anxiety disorder (also known as social phobia). The score can vary from 0 to 40. The average total score should also be calculated and used by the doctor. By calculating the average total score, a clinician can assess a patient's severity of social anxiety disorder (also known as social phobia) on a 5-point scale, ranging from none (0) to mild (1), moderate (2), severe (3), or extreme (4).

In the DSM-5 Field Trials, physicians considered the average total score to be dependable, user-friendly, and clinically helpful. The raw total score is divided by the total number of items in the measure (i.e., 10) to get the average total score. In this study, the researcher classifies the total score in terms of none (0-9), mild (10-19), moderate (20-29), severe (30-39), or extreme (40). The two levels (none and extreme) were skipped for eligibility and thus the students who had mild, moderate, or severe levels of social anxiety met the eligibility criteria to participate in this study. In the

present study, the mean score was 13.22 (SD = 7.84) and internal consistency was assessed by Cronbach's alpha (.867).

2.4.2 Personal Information Form (PIF)

The PIF elicited demographic, personal, academic, and social information that included the respondent's gender, age, academic qualification, academic achievement, name and type of institute, name of the department, roll number, current year/semester, residence type, parental education, parental occupation, family socioeconomic status, family type, religious affiliation, and brought-up place, etc.

2.4.3 Outcome Measures

2.4.3.1 Brief Version of the Fear of Negative Evaluation (BFNE) Scale. One of the most often used forms is the 12-item BFNE (Leary, 1983) (Rodebaugh et al., 2004; Weeks et al., 2005). Based on Watson and Friend's original 30-item FNE, it is meant to assess anxieties with unfavorable interpersonal assessments (1969). The Bangla-translated version (by the researcher) of the BFNE was used in the present study. The BFNE employs a 5-point Likert scale to evaluate levels of apprehension and expectation in evaluative situations, with response options ranging from 1 (Not at all characteristics of me) to 5 (Extremely characteristic of me), including intermediate points of 2 (Slightly characteristic of me), 3 (Moderately characteristic of me), 4 (Very characteristic of me). Out of the twelve items, eight indicate that fear or anxiety is present, and the other four indicate that fear or worry is absent. The total score ranged from 12-60 with a higher score representing greater fear of negative evaluation.

The BFNE correlated highly with the original scale ($r = .96$), and the BFNE demonstrated both high internal consistency ($\alpha = .90 - .91$), 4-week test-retest reliability ($r = .75$) in undergraduate samples (Leary, 1983; Miller, 1995), and

McDonald's omega was .887 (Bernal-Altamirano et al., 2022). The validity of the BFNE scale, in comparison to the original FNE scale, has been thoroughly documented (Ngan, et. al., 2023). Additionally, the BFNE scale has been translated into many languages including Chinese (Wei et al., 2015). Persian (Tavoli et al., 2009), Slovak (Hajdúk et al., 2015), Spanish (Pitarch et al., 2007), Turkish (Koydemir & Demir, 2007), Urdu (Bano et al., 2009), and Vietnamese (Ngan, et. al., 2023) and has shown a high level of reliability and validity.

2.4.3.2 Inventory of Interpersonal Situations (IIS). The IIS was originally developed by van Dam-Baggen and Kraaimaat (1999) to measure social anxiety on the Discomfort Scale and the frequency of social responses on the Frequency Scale. In this study, the Bangla-translated version (by the researcher) of IIS was used in this study. The IIS Discomfort and Frequency Scales feature the same 35 items, rated with 5-point Likert scales in response to social situations. For the discomfort scale, the ratings are 1 (None), 2 (A little), 3 (A fair amount), 4 (Much), and 5 (Very much). For the frequency scale, the ratings are: 1 (Never), 2 (Seldom), 3 (Sometimes), 4 (Often), and 5 (Always), measuring the level of discomfort and frequency of response. The IIS has five sub-scales (see Table 5): (a) Giving criticism, (b) Expressing opinions, (c) Giving compliments, (d) Initiating contacts, and (e) Positive self-evaluation. All sub-scales showed sufficient internal consistency (Van Dam-Baggen & Kraaimaat, 1987, 1999, 2000). The total score ranged from 35-175 with higher scores indicating greater social anxiety on the Discomfort Scale and greater frequency of social responses on the Frequency Scale.

The IIS scales and sub-scales have been reported to exhibit adequate validity, internal consistency, and test-retest reliability at all levels. (Kraaimaat et. al., 2002). In particular, there was adequate sensitivity to change in several treated samples of

psychiatric patients (effect sizes more than 1.00 for the Discomfort Scale and more than .89 for the Frequency Scale), good temporal stability over a 6-week interval (Discomfort Scale, $r = .84$; Frequency Scale, $r = .86$) in a healthy sample, and high internal consistency of the Discomfort Scale ($\alpha > .93$) and Frequency Scale ($\alpha > .91$) in several treated and untreated samples of psychiatric patients. It should be mentioned that the excellent predictive validity of the Frequency Scale for a range of pertinent overt behaviors indicates that the scale is suggestive of overt conduct in social settings.

The literature suggests that low levels of social behaviors are associated with high levels of negative emotion in social situations. The correlations between the discomfort and frequency scale scores were found to be approximately $r = -0.40$ in samples of individuals with high levels of social anxiety, and $r = -0.60$ in samples of the general population. The IIS's five subscales were developed using factor analysis techniques, and it was discovered that both the general public and psychiatric patients with social anxiety disorder showed the same levels of invariance across these subscales (Kraaimaat et al., 2002).

2.4.3.3 Rosenberg Self-Esteem Scale (RSES). Rosenberg's self-esteem scale (1965) was designed to measure global positive or negative attitudes toward oneself. In the present study, the Bangla version (Ilyas, 2003) of RSES was used. To attain total self-esteem, the RSES is a one-dimensional scale that assesses both positive and negative feelings about oneself (Rajabi Jourshari et al., 2022; Swami, 2011; Todd et al., 2020). It has 10 items (6 positive items and 4 negative items) and each item has four alternative responses (strongly disagree = 4, disagree = 3, agree = 2, and strongly agree = 1). Total scores on the scale ranged from 10-40 with higher scores representing lower self-esteem.

English version of the self-esteem scale had high reliability: test-retest correlations were typically in the range of .82 to .88, and Cronbach's alpha for various samples was in the range of .77 to .88 (Blascovich & Tomaka, 1999). The correlation between the English and Bangla version of the scale was high ($r = .87$) indicating the translation reliability of the Bangla version of the scale (Ilyas, 2003). High Cronbach's alpha ($\alpha = .87$) of the Bangla version further indicated the internal consistency of the scale (Ilyas, 2003). Researchers have translated RSES into many languages such as Colombian (Gómez-Lugo et al., 2016), Czech (Čerešník et al., 2022), Eritrean (Amahazion, 2021), German (Roth et al., 2008), Irish (Kielkiewicz et al., 2020) Japanese (Mimura & Griffiths, 2007), Malay (Cong & Cheong, 2023; Lim et al., 2019), Persian (Rajabi Jourshari et al., 2022), Spanish (Mayordomo et al., 2020) and has shown good psychometric properties.

2.4.3.4 Student Adaptation to College Questionnaire (SACQ). Four subscales (see Table 5) of the 67-item standardized SACQ (Baker & Siryk, 1984, 1986, 1987, 1989, 1999) measure four distinct aspects of college/university adjustment: (a) academic adjustment subscale (24 items), reflecting the degree to which students have adapted to their academic demands; (b) social adjustment subscale (20 items), reflecting the students' success in the interpersonal relationships inherent in university life; (c) personal-emotional adjustment subscale (15 items), reflecting the degree to which students are experiencing distress for the demands of the university environment; and (d) institutional attachment (7 items), reflecting the quality of the relationship between the student and the institution and the commitment that the young adult feel towards university as an institution (Francesca et al., 2022). The Bangla-translated version (by the researcher) of the SACQ was used to assess the college/university adjustment of the students in this study.

Based on logical analysis, all items were grouped into 12 essential clusters that represented various features of each subscale (Baker & Siryk, 1989). Table 5 displays the items linked to the subscales and clusters. Four clusters under the academic adjustment domain are looked at: (a) motivation (which includes reasons for going to college, goals for one's studies, the value of a college degree, and enjoyment of coursework); (b) application (does the student complete assignments on time, puts forth the necessary effort, is driven to learn, and attends classes); (c) performance (does the student find academic work challenging, perform poorly on exams, expresses satisfaction with academic performance, feels intelligent enough for the material, devotes enough time to studying, enjoys writing papers for classes, finds it difficult to focus while studying, and finds it difficult to begin homework); and (d) academic environment (i.e., whether the student is content with the range, caliber, and schedule of courses, as well as the instructors and the academic setting).

The four clusters that comprised the social adjustment domain examined (a) general information, such as the individual's degree of satisfaction with social participation and life, number of social ties, involvement in college social activities, and ability to adjust to college life; (b) other people (looks at whether they are making friends, interacting casually with professors, having a relationship with roommates, feeling toward other college students, associating with the opposite sex, feeling unflatteringly different from others, and whether they have supportive friends with whom to discuss issues); (c) nostalgia (degree of loneliness and if feeling homesick); and (d) social environment (contentment with extracurricular activities, situational enjoyment, and decision to attend this institution).

There were only two clusters in the personal-emotional adjustment domain that examined psychological (like how tense or nervous, moody or blue they feel, how

easy it has been to be independent, how well they can control their emotions, whether they have thought about seeking psychological help recently, whether they get angry easily, whether they worry about college expenses, and whether they have trouble coping with college stress) and physical (like how tired they feel lately, how hungry they are, how often they get headaches, whether they gain or lose weight, how they sleep, and whether they feel well-resided).

There were only two clusters in the institutional attachment domain: one examined general information (such as whether the student is happy to attend college, whether they often consider dropping out, and whether they are considering taking a break from school), and the other examined specific college information (such as whether the student is happy to attend this college, whether they would prefer to be at another college, whether they expect to finish their bachelor's degree, and whether they are considering transferring to another college).

Using a nine-point Likert-type scale, which went from 1 (applies very closely to me) to 9 (does not apply to me at all), the participants answered each issue. Nine items—1, 4, 16, 26, 36, 42, 56, 57, and 65—appear on multiple subscales; the total score across the subscales will surpass the score for the entire scale. The social adjustment subscale and the institutional attachment subscale are measured simultaneously by eight of the scale's items (Items 1, 4, 16, 26, 42, 56, 57, and 65), and one item (Item 16) takes into account both subscales concurrently. The entire scale's scores fall between 67 and 603. The subscales measuring institutional attachment, social, personal-emotional, and intellectual attachment have scores ranging from 7 to 63, 20 to 180, 15 to 135, and 24 to 216, respectively. Higher scores indicated a lower self-perceived adaptation to college or university.

Table 5*Distribution of Items Under Respective Scale, Subscale, or Cluster*

Outcome Variable	Scale	Subscale & Cluster	Number of Items	Items on Scale, Subscale, or Cluster
Social Anxiety	BFNE (Leary, 1983)	-	12	1, 2*, 3, 4*, 5, 6, 7*, 8, 9, 10*, 11, 12
		Giving Criticism	7	2, 8, 10, 21, 25, 31, 33
	IIS (van Dam-Baggen & Kraaimaat, 1999)	Expressing Opinions	6	14, 16, 20, 30, 32, 34
		Giving Compliments	4	9, 17, 23, 24
		Initiating Contacts	5	1, 12, 13, 15, 29
		Positive Self-Evaluation	4	4, 26, 27, 28
		Full Scale ^a	35	1-35
Self-Esteem	Bangla version (Ilyas, 2003) of RSES	-	10	1, 2, 3*, 4, 5*, 6, 7, 8, 9*, 10*
University Adjustment	SACQ (Baker & Siryk, 1984, 1986, 1987, 1989, 1999)	Academic Adjustment	24	
		Motivation	6	5, 19, 23, 32*, 50, 58*
		Application	4	3, 17*, 29*, 44
		Performance	9	6*, 10*, 13, 21*, 25*, 27, 39*, 41*, 52*
		Academic Environment	5	36, 43, 54, 62, 66
		Social Adjustment	20	
		General	7	1, 8, 9, 18, 37, 46, 65
		Other People	7	4, 14, 33, 42*, 48*, 56*, 63
		Nostalgia	3	22*, 51*, 57*
		Social Environment	3	16, 26, 30
		Personal-Emotional Adjustment	15	
		Psychological	9	2*, 7*, 12*, 20*, 31*, 38*, 45*, 49*, 64*
		Physical	6	11*, 24, 28*, 35*, 40*, 55
		Institutional Adjustment	7	
		General	3	15, 60*, 61*
		This University	4	16, 34*, 47, 59*
		Full Scale ^b	67	1-67

*Indicate item must be reversed scored.

^aItems 3, 5, 6, 7, 11, 18, 19, 22, and 35 contribute only to the IIS full scale.^bItems 53 and 67 contribute only to the SACQ full scale.

In research involving first-generation college students, Baker and Siryk (1987) found that the academic subscale had internal consistency reliability coefficients of $\alpha=0.83$ to 0.89 , the social subscale had $\alpha=0.83$ to 0.91 , the personal-emotional subscale had $\alpha=0.77$ to 0.85 , and the institutional attachment subscale had $\alpha=0.85$ to 0.91 . The SACQ Manual (Baker & Siryk, 1999) states that dependability was determined using data collected from first- and second-semester freshmen at three different colleges over several years. The final 67-item version of the SACQ, when its alpha coefficients were examined, ranged from $.81$ to $.90$ for the academic adjustment subscales, $.83$ to $.91$ for the social adjustment subscales, $.77$ to $.86$ for the personal-emotional adjustment subscale, $.85$ to $.91$ for the institutional attachment subscale, and $.92$ to $.95$ for the Full Scale. Furthermore, a meta-analysis of 237 independent samples revealed alpha coefficients greater than $.90$ for every SACQ subscale (Credé & Niehorster, 2012).

The SACQ's criterion validity has been established by the correlation of subscale scores with the respondents' individual characteristics (Baker & Siryk, 1999). The full-scale and four subscale scores, as well as the scores on the self-esteem inventory, general self-efficacy scale, social self-efficacy, psychological separation inventory, and academic locus of control, were correlated with multiple psychological measures, according to Baker and Siryk (1999). The findings showed that there was a statistically significant and predicted tendency in the connections between self-efficacy and self-esteem and academic adjustment ($.47, .58$), social adjustment ($.40, .52$), and personal emotional adjustment ($.54, .52$), respectively. All of the subscales showed a negative relationship between academic locus of control scores, suggesting that students with higher adjustment scores were more likely to have an internal locus of control. Consistent results were attained for every measure. Beyers

and Gossens (2002) analyzed the reliability of SACQ results in a Belgian student sample and contrasted them with results from students in North America.

Tuason et al. (2023) discovered in their study that the overall SACQ had $\alpha=0.94$ prior to the intervention and $\alpha=0.98$ following it. Regarding the four subscales, prior to the intervention program, $\alpha=0.83$ (academic), 0.87 (social), 0.84 (personal-emotional), and 0.73 (attachment), and following the program, $\alpha=0.90$ (academic), 0.96 (social), 0.76 (personal-emotional), and 0.83 (social). Following the intervention, the academic, social, personal-emotional, and attachment adjustments had Composite Reliability (CR) values of 0.96, 0.97, 0.89, and 0.93, which is an extra reliability index for internal consistency. Moreover, the post-intervention Average Variance Extracted (AVE) values of 0.64, 0.66, 0.58, and 0.60 demonstrated good convergent validity for the academic, social, personal-emotional, and attachment adjustments.

The SACQ has been widely used in North America (i.e., Baker & Siryk, 1999; Feldt et al., 2011; O'Donnell et al., 2018; Taylor & Pastor, 2007) and constitutes the most important instrument for measuring adjustment to university, and it has also been adapted into other languages or countries such as Chinese (Gao et al., 2023; Tao et al., 2000), Colombian (Gravini Donado et al., 2021), Dutch-speaking Belgian (Beyers & Goossens, 2002), French (Carayon & Gilles, 2005), Italian (Francesca et al., 2022), Malaysian (Abdullah et al., 2009), Peruvian (Cassaretto et al., 2022), Portuguese (Rocha & Matos, 2008), Romanian (Grama, 2018), Spanish (Soledad et al., 2012) and has shown a high level of reliability and validity.

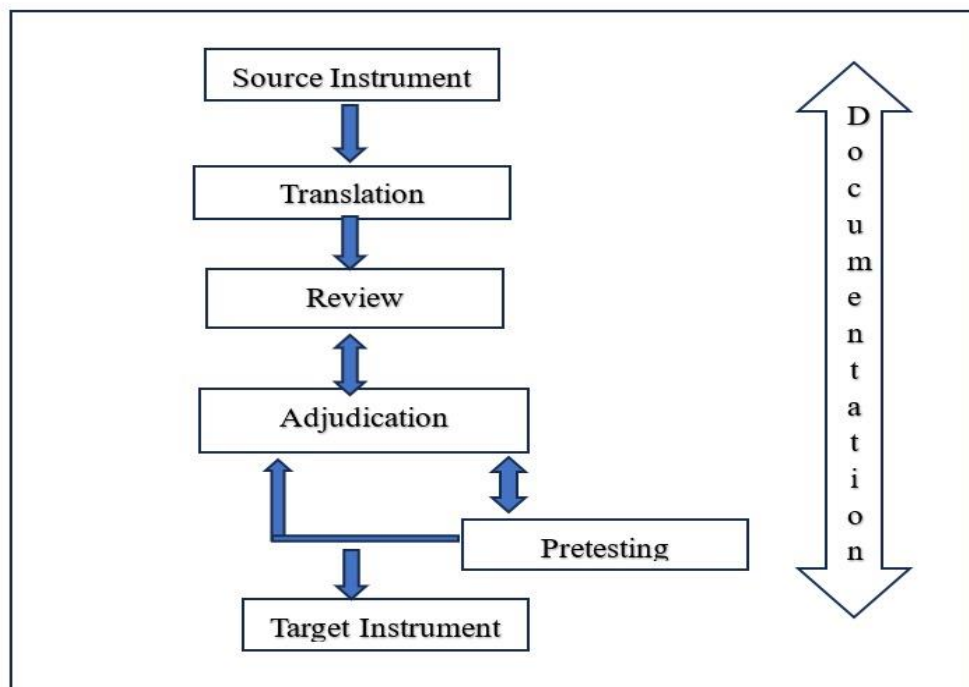
2.4.4 Scale Translation Process

Since three measuring scales (i.e., BFNE, IIS, SACQ) are originally in English version, these need to be translated and adapted into Bangladeshi culture using proper

methods or guidelines. Though forward and backward translation is a popular method of questionnaire translation in Psychology, its capacity is limited to detect flaws in translation and necessities for cultural adaptation (Walde & Völlm, 2023). To address these shortcomings, Harkness (2003, 2007, 2008, 2011) developed a TRAPD (Translation, Review, Adjudication, Pretest, and Documentation) model (see Figure 2).

Figure 2

TRAPD Team Translation Model



Source: Mohler et al. (2016)

In this model, several translators with different professional backgrounds translate the questionnaire on their own first and then come together to discuss their versions to produce an optimal version of the questionnaire (Walde & Völlm, 2023), as the translation skill alone is not sufficient in a survey context (Mohler et al., 2016). This is the preferred method for the translation and cultural adaptation of

questionnaires or scales according to the Cross-Cultural Survey Guidelines (Survey Research Center, 2016; Vijver & Mohler, 2003; Walde & Völlm, 2023).

In the present study, at first, the researcher approached the original authors of the respective scales through email to get permission to translate and adapt them to Bangladeshi culture; but only one author (Mark R. Leary of BFNE) responded and gave permission to translate and adapt in Bangladeshi culture. The translation of each scale was performed with the use of the TRAPD model as follows:

Step-1: Translation. The researcher translated the three original English version scales (BFNE, IIS, SACQ) into Bangla. Then, the researcher sat together with PhD supervisor to check and modify the translations and to polish the translation of the Bangla version. Thus, the first drafts of the scales were prepared.

Step-2: Review. The translations of three scales were reviewed by the six independent reviewers, among them two were subject matter (Psychology) experts, two were Bangla language experts, and two were English language experts. Their task was to judge the accuracy of translation and the relevance or suitability of each item for measuring social anxiety (BFNE and IIS) and university adjustment (SACQ). Each expert independently rated the accuracy of each translated item using a 2-point scale (0 = Not Correct, 1 = Correct) and the relevancy of each item for measuring corresponding construct-each item using another 2-point scale (0 = Not Relevant, 1 = Relevant). Their task was also to inspect the wording, sentence-making, clarity, and organization of the translated items.

Step-3: Adjudication. Two adjudicators (the researcher and her supervisor) decided whether the translation was ready to move to detailed pretesting. Following the reviewer's evaluation in Step-2, the accuracy of the translation of three scales was examined by calculating the accuracy index (AI) for each item by using a formula, AI

= Number of ratings at 1 ÷ Number of experts (see Table 6). The item yielding an AI of 1 ($AI = 6 \div 6$) is correctly and reliably translated (Karim & Nigar, 2014). The adjudicators refined or modified the five items of BFNE, nine items of IIS, and seven items of SACQ as these items had an accuracy index of less than one ($AI < 1$). The adjudicators ensured the accuracy of translated items by reviewing the items having $AI < 1$ in the light of their comments and suggestions.

Table 6

Results of the Accuracy Indexes of the Scales

Scale	Total Number of Items	Number of Items having $AI = 1$	Number of Items having $AI < 1$	Modified Items
BFNE	12	7	5	1, 4, 9, 10, 12
IIS	35	26	9	3, 10, 11, 20, 28, 31, 32, 33, 35
SACQ	67	60	7	4, 12, 15, 21, 32, 34, 61

The adjudicators also examined the relevance or suitability of the items in Bangladeshi culture by calculating the relevancy index (RI) for each item by using a formula, $RI = \text{Number of ratings at 1} \div \text{Number of experts}$ (see Table 7). They considered an item yielding an RI of 1 or .83 ($RI = 6 \div 6$ or $RI = 5 \div 6$) to be relevant or suitable (Karim & Nigar, 2014). Since the RI values of each item of the three scales were equal to 1 or .83, no items were dropped based on relevancy. Thus, the second draft of the Bangla version of the three scales was finalized for pretesting.

Table 7*Results of the Relevancy Indexes of the Scales*

Scale	Total Number of Items	Number of Items Having RI = 1 or .83	Number of Items Having RI < .83
BFNE	12	12	0
IIS	35	35	0
SACQ	67	67	0

Step-4: Pretesting. A pretesting was implemented with the second draft of the Bangla version of the scales with the sample of university students, whose responses allowed them to examine and modify some issues related to the implementation of the adaptation process. The pretest was carried out on the students ($N = 46$) of Jahangirnagar University, Dhaka in which 20 were male and 26 were female students. The pretesting aimed to assess the suitability of the test materials, procedures, administration directions, and item clarity for participants. Participants were asked to provide feedback on the readability, logic, clarity, comprehensiveness, ease of response, as well as the style and formatting of all scale items (see Table 8)

During the pretesting phase, participants were not only asked to complete the questionnaires but were also encouraged to provide verbal feedback on their experiences. This included sharing their thoughts on item difficulty, typos, time-consuming aspects, grammatical errors, the clarity of instructions, and the overall questionnaire design. The researcher also welcomed any other observations they could offer during the process. To ensure the quality of data and participant engagement, the researcher closely observed response styles, motivation, and attention levels during the questionnaire completion.

Table 8*Percentages of the Participants Commented on Different Aspects of Each Scales*

Aspects	Response/Comments (%) on:					
	BFNE		IIS		SACQ	
	Yes	No	Yes	No	Yes	No
Readable	97.80	2.20	100.00	0.00	100.00	0.00
Logical	95.70	4.30	91.30	8.70	97.80	2.20
Clear	87.00	13.00	89.10	10.90	93.50	6.50
Comprehensive	91.30	8.70	82.60	17.40	93.50	6.50
Ease of Response	76.10	23.90	69.60	30.40	71.70	28.30
Style & Formatting	93.50	6.50	89.10	10.90	91.30	8.70

Additionally, the researcher paid attention to participants' emotional reactions, noting any signs of frustration, comfort, hesitancy, or facial expressions that could shed light on their experience. Valuable suggestions from participants were actively encouraged and recorded, leading to refinements in some questionnaire items based on their feedback. Adjudicators made necessary adjustments to address issues related to wording, abstractness, perspective clarity, and response style. Importantly, no item was reported as significantly erroneous or ambiguous, warranting removal. Consequently, a third draft was prepared for the final field testing, reflecting the collective efforts to enhance the questionnaire's quality and effectiveness.

Step-5: Documentation. All qualitative and quantitative data (i.e., different translated versions, notes, comments, or suggestions) were carefully collected at each stage of the translation process and made available to support the work of people

involved (translators, reviewers, adjudicators) in the process for scale modification and improvement and for assessment purposes.

2.4.5 Scale Validation Process

In this study, the scale validation process includes item descriptives and item analysis of the scales, and assessing validity, reliability, and measurement model of the scales. The item descriptives and item analysis were assessed by using SPSS Statistics 27 and Microsoft Excel 365. The scales' validity, reliability, and measurement model were evaluated through confirmatory factor analysis (CFA) using the partial least squares structural equation modeling (PLS-SEM) approach with SmartPLS 4 (Ringle et al., 2024).

Structural equation modeling (SEM) is a modern measurement alternative, recognized as a second-generation technique in multivariate analysis. SEM analysis offers several advantages over first-generation multivariate methods. By combining factor analysis and regression techniques, SEM allows researchers to examine the relationship between observed and latent variables. A key benefit of SEM is the ability to analyze all these relationships simultaneously.

Covariance-based SEM (CB-SEM) and Partial least squares SEM (PLS-SEM) are the most commonly employed SEM analysis techniques in recent research. While CB-SEM and PLS-SEM techniques are complementary, they differ significantly in their objectives, statistical approaches, and analysis requirements (Hair et al., 2014). PLS-SEM is a statistical tool for estimating causative relationships among variables. Using a multivariate method, PLS-SEM is a non-parametric approach for assessing latent constructs in path models. In addition, PLS-SEM can compute complex models that examine mediation paths (Hair et al., 2020)

To validate of the adapted scales of social anxiety, self-esteem, and university adjustment, the researcher calculated, following guidelines presented in Table 9, item descriptives (percentage of participant's response on different response options, mean, standard deviation, skewness, and kurtosis), item analysis (average inter-item correlation or AIIC, average item-total correlation or AITC, corrected item-total correlation or CITC, and Cronbach's Alpha if item deleted or CID), principal component analysis for 9 items of IIS, construct convergent validity (indicator reliability or factor loading and average variance extracted or AVE), construct reliability (Coefficient α , composite reliability- ρ_A and ρ_C) of LOCs and HOCs, discriminant validity (heterotrait-monotrait or HTMT ratio, Fornell-Larcker criterion, and cross-loadings) of LOCs and HOCs, and full-scale and sub-scale reliability (split-half, coefficient α , and McDonald's ω) of the adapted measures.

2.4.5.1 Item Analysis, Construct Reliability and Validity of BFNE Scale.

Table 10 presents item analysis, i.e., response frequencies and item descriptives for the BFNE scale. For most of the items, responses were clustered at the upper end of the scale, indicating greater fear of negative evaluation, as this was expected in a population having social anxiety. All items of the BFNE scale were found to have no floor effect since the percentage of extremely low responses, such as "1", ranged from 5.81% to 14.53%. On the other hand, all items of the scale were found to have ceiling effect since the percentage of extremely high responses, as "5", ranged from 15.70% to 36.05%. In most cases, the full range of possible responses had been used, satisfactorily supporting the overall sensitivity of the scale's measurement model.

Table 9*Validation Analysis Techniques and Assumptions on Its Indexes*

Analysis	Index	Assumption	Reference	Tool
Item Descriptives	% of Response, Mean, Standard Deviation	N/A	N/A	SPSS
	Skewness and Kurtosis	$< \pm 2.58$	Hair et al., 2006	SPSS
Item Analysis	Average Inter-Item Correlation (AIIC)	.15 - .50	Briggs & Cheek, 1986	SPSS
	Average Item-Total Correlation (AITC)	$\geq .30$	Cristobal et al., 2007	SPSS & Excel
	Corrected Item-Total Correlation (CITC)	$\geq .30$	Cristobal et al., 2007	SPSS
	Cronbach's Alpha If Item Deleted (CID)	$CID < \alpha$	, 2008	SPSS
Principal Component Analysis (PCA): Promax Rotation Method with Kaiser Normalization	Kaiser-Mayer-Olkin test	> 0.60	Kaiser, 1974	
	Bartlett's Test of Sphericity	> 0.30	Bartlett, 1954	SPSS
	Communality	> 0.50	Hair et al., 2006	
	Eigen Value	> 1		
Indicator Reliability	Outer Loading	≥ 0.30	Grimm & Yarnold, 1995	
		Outer Loading ≥ 0.708 (suggested)	Hair et al., 2010, 2014, 2019, 2020	SmartPLS
		$0.4 \leq \text{Outer loading} < 0.7$ (Acceptable with certain condition) Outer loading < 0.4 (should be eliminated)	Hulland, 1999; Byrne, 2016 Bagozzi & Yi, 1991; Hair et al., 2011, 2017	SmartPLS SmartPLS
Convergent Validity	Average Variance Extracted (AVE)	≥ 0.50	Hair et al., 2014, 2017, 2019, 2020	SmartPLS
Internal Consistency or Construct Reliability	Cronbach α Composite Reliability- ρ_A & ρ_C	≥ 0.70	Robinson et al., 1991	
		< 0.60 (Low)	Hair et al., 2014	
		$0.70 - 0.90$ (Satisfied)	Hair et al., 2017, 2019; Nunnally & Bernstein, 1994	SmartPLS
		$0.60 - 0.70$ (Acceptable)	Hair et al., 2014	
		> 0.90 (Collinearity issue)	Hair et al., 2014	
Analysis	Index	Assumption	Reference	Tool
	Hetrotrait-	For different constructs: ≤ 0.85 (Stringent)	Hair et al., 2019; Kline, 2015	SmartPLS

Discriminant Validity	Monotrait (HTMT) Ratio	Criterion)	Gold et al., 2001; Hair et al., 2019; Henseler et al., 2015	
	Fornell-Larcker Criterion	For similar constructs: ≤ 0.90 (Conservative Criterion) Square root of AVE > Highest correlation with any other construct	Fornell & Larcker, 1981; Hair et al., 2017	SmartPLS
	Cross-Loadings	Indicator's outer loadings on a construct > cross loadings with other constructs	Hair et al., 2011, 2014, 2017	SmartPLS
Reliability of Adapted Scale	Split-Half Coefficient α McDonald's ω	≥ 0.9 : Excellent	Hair et al., 2010	SPSS
		0.80 – 0.89: Good		
		0.70 – 0.79: Acceptable		
		0.60 – 0.69: Questionable		
		0.50 – 0.59: Poor < 0.50: Unacceptable		

The mean and standard deviation of most of the items of BFNE scale fell to a moderate level, i.e., ranges mean: 3.08 – 3.69, and standard deviation: 1.231 – 1.362. On average, respondents tended to show moderate levels of agreement for the items of BFNE scale with responses being moderately varied in their opinions. All 12 items of the scale were distributed normally based on skewness and kurtosis because they were in the recommended cut-off score. Though the items' distribution slightly were negatively skewed (or asymmetric) and negative kurtosis (platykurtic), none of these indexes were found outside of the range that was determined as extreme.

The average inter-item correlation (AIIC) of the scale was found to be .373 and it indicates greater internal consistency between different items in the scale. The average item-total correlation (AITC) of the scale was found to be .652 and it reflects the very good relation of individual items to the overall scale. The corrected item-total correlations ranged from .244 to .750 and it suggests all items, except items 2 and 4, were identified as acceptable.

Table 10*Item Properties of the BFNE Scale*

Item	Response Scale (%)					Item Descriptives					
	1 (FE)	2	3	4	5 (CE)	<i>M</i>	<i>SD</i>	<i>Skew</i>	<i>Kurt</i>	<i>CITC</i>	<i>CID</i>
BFNES_01	6.40	22.67	19.19	30.23	21.51	3.38	1.229	-0.259	-1.046	.663	.864
BFNES_02	13.37	17.44	33.14	20.35	15.70	3.08	1.243	-0.071	-0.861	.244	.887
BFNES_03	12.21	20.35	15.70	29.07	22.67	3.30	1.346	-0.294	-1.165	.691	.861
BFNES_04	9.30	11.63	22.09	27.33	29.65	3.56	1.280	-0.558	-0.724	.395	.879
BFNES_05	14.53	20.35	18.60	25.58	20.93	3.18	1.362	-0.177	-1.212	.657	.863
BFNES_06	13.37	19.77	20.35	29.65	16.86	3.17	1.298	-0.221	-1.085	.720	.860
BFNES_07	6.40	12.21	20.93	27.33	33.14	3.69	1.231	-0.618	-0.624	.420	.877
BFNES_08	10.47	25.58	16.28	24.42	23.26	3.24	1.342	-0.132	-1.266	.653	.864
BFNES_09	11.05	18.60	17.44	27.91	25.00	3.37	1.334	-0.350	-1.091	.642	.864
BFNES_10	9.30	9.88	23.26	27.33	30.23	3.59	1.269	-0.602	-0.620	.443	.876
BFNES_11	14.53	13.95	19.19	35.47	16.86	3.26	1.301	-0.433	-0.940	.750	.858
BFNES_12	5.81	12.79	20.93	24.42	36.05	3.72	1.239	-0.611	-0.698	.590	.868

AIIC = .373; *AITC* = .652, α = .878

The Cronbach alpha of the BFNE scale was found to be .878 and it reflects higher internal consistency reliability of the scale. Most of the Cronbach alpha if item deleted (CID) values were less than Cronbach alpha, but CID values of items 2 and 4 were greater than the alpha value, i.e., .887 and .879, respectively. Therefore, most of the items were well-aligned with the scale and contributed to its overall reliability, but items 2 and 4 didn't fit well with the rest of the items and had weak relationships to the underlying construct (fear of negative evaluation).

The construct (internal consistency) reliability of fear of negative evaluation is determined by the three-reliability criteria Cronbach's alpha (α) and composite reliability-CR (ρ_A & ρ_C) and the convergent validity is determined by the outer loadings of the indicators, as well as the average variance extracted (AVE). In Table

11, the Cronbach's alpha (α) and composite reliability-CR (ρ_A & ρ_C) values for the fear of negative evaluation are at a satisfactory level ($> .70$).

Table 11

Construct Reliability and Validity of BFNE Scale

LOC	Items	Construct Convergent Validity		Construct Reliability		
		Outer Loading	AVE	Cronbach α	CR (ρ_A)	CR (ρ_C)
Fear of Negative Evaluation	BFNES_01	.761				
	BFNES_02	.268				
	BFNES_03	.787				
	BFNES_04	.432				
	BFNES_05	.764				
	BFNES_06	.803	.447	.877	.903	.901
	BFNES_07	.468				
	BFNES_08	.745				
	BFNES_09	.714				
	BFNES_10	.500				
	BFNES_11	.819				
	BFNES_12	.690				

Therefore, the results revealed that the items utilized to characterize the construct (fear of negative evaluation) had adequate internal consistency reliability. The outer loading value for the entire indicator exceeds the level of .708, except for the five indicators (BFNES_02, BFNES_04, BFNES_07, BFNES_10, and BFNES_12). Hair et al. (2017), suggest that items with outer loading below .40 should be removed, while those with loading between .40 and .70 should only be kept if they enhance the values of Composite Reliability (CR) and Average Variance Extracted (AVE). Among them, four indicators (BFNES_04, BFNES_07, BFNES_10,

and BFNES_12) passed the level of .40, but one indicator (BFNES_02) had very low loading (.268), and thus, this indicator (BFNES_02) needed to be deleted from the measurement model.

The AVE value for the construct (fear of negative evaluation) did not pass (.447) the acceptance level of .50. Therefore, the indicator was removed to monitor the change in the AVE value. According to Smart-PLS analysis criteria, the AVE value for the construct (fear of negative evaluation) can be increased by removing indicators with loadings below .708. Even though five indicators had outer loadings below the .708 threshold, the removal process should start with the indicator having the lowest outer loading overall. According to Table 11, BFNES_02 has the lowest outer loading value among the indicators and should be the first to be removed in the initial analysis round.

Table 12

Construct Reliability and Validity of BFNE Scale After Adjustment

LOC	Items	Construct Convergent Validity		Construct Reliability		
		Factor Loading	AVE	Cronbach α	CR (ρ_A)	CR (ρ_C)
Fear of Negative Evaluation	BFNES_01	.772				
	BFNES_03	.792				
	BFNES_05	.774				
	BFNES_06	.811				
	BFNES_07	.447	.515	.889	.903	.911
	BFNES_08	.756				
	BFNES_09	.709				
	BFNES_10	.479				
	BFNES_11	.823				
	BFNES_12	.698				

After removing BFNES_02, the model was reanalyzed to obtain new values for outer loading, construct reliability, and AVE. This process was repeated until the AVE value, initially below .50, exceeded this threshold. Table 12 displays the convergent reliability and validity values after removing the second indicator, BFNES_04. The removal of BFNES_04 resulted in an increased AVE value for the construct ‘fear of negative evaluation’, reaching .515. The outer loading values, Cronbach’s alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE for the construct and indicators achieved an acceptable and satisfactory level after this adjustment. Although three items from the BFNE scale (BFNES_07, BFNES_10, and BFNES_12) had outer loading values of .447, .479, and .698, respectively, they were retained due to their sufficient contribution to improved CR and AVE values. Consequently, the construct reliability and construct convergent validity of the BFNE scale is established by removing the two items, BFNES_02 and BFNES_04.

2.4.5.2 Item Analysis, Construct Reliability and Validity of RSES.

Table 13 presents item analysis, i.e., response frequencies and item descriptives for the RSES. For most of the items, responses were clustered at the lower end of the scale, indicating lower self-esteem, as this was expected in a population having social anxiety. Half of the items of the RSES were found to have floor effects and among them, only item 8 showed an extremely high percentage of response (45.35%). On the other hand, most of the items on the scale were found to have no ceiling effects, but items 5, 9, and 10 had ceiling effects. In most cases, the full range of possible responses had been used, satisfactorily supporting the overall sensitivity of the scale’s measurement model.

Table 13*Item Properties of the RSES*

Items	Response Scale (%)				Item Descriptives					
	1 (FE)	2	3	4 (CE)	<i>M</i>	<i>SD</i>	<i>Skew</i>	<i>Kurt</i>	<i>CITC</i>	<i>CID</i>
SES_01	13.37	36.63	41.86	8.14	2.45	0.826	-0.115	-0.555	.549	.780
SES_02	29.65	56.40	12.79	1.16	1.85	0.673	0.413	0.127	.517	.786
SES_03	11.63	41.28	33.14	13.95	2.49	0.875	0.124	-0.669	.529	.782
SES_04	29.65	49.42	18.60	2.33	1.94	0.758	0.433	-0.254	.410	.796
SES_05	8.72	23.84	41.86	25.58	2.84	0.907	-0.396	-0.616	.530	.782
SES_06	18.60	50.58	25.58	5.23	2.17	0.790	0.326	-0.236	.616	.773
SES_07	18.60	37.21	35.47	8.72	2.34	0.881	0.047	-0.748	.571	.777
SES_08	45.35	45.93	6.98	1.74	1.65	0.689	0.909	0.887	-.126	.842
SES_09	6.98	20.93	41.86	30.23	2.95	0.891	-0.511	-0.484	.570	.777
SES_10	7.56	18.60	45.93	27.91	2.94	0.877	-0.571	-0.282	.624	.771

AIIC = .281; *AITC* = .593, α = .805

The mean and standard deviation of most of the items of the RSES fell to a moderate level, but the mean for items 2, 4, and 8 were at a low level. On average, respondents tended to show a moderate level of agreement for most of the items of the RSES with responses being moderately varied in their opinions. All 10 items of the scale were distributed normally based on skewness and kurtosis because they were in the recommended cut-off score. Though some of the items' distribution was negatively skewed (or asymmetric) and negative kurtosis (platykurtic), none of these indexes were found outside of the range that was determined as extreme.

The average inter-item correlation (*AIIC*) of the scale was found to be .281 and it indicates good internal consistency between different items in the scale. The average item-total correlation (*AITC*) of the scale was found to be .593 and it reflects the very good relation of individual items to the overall scale. The corrected item-total correlations of most of the items in the RSES ranged from .410 to .624 and it suggests all items, except item 8, were identified as acceptable. The Cronbach alpha of the

RSES was found to be .805 and it reflects higher internal consistency reliability of the scale. Most of the Cronbach alpha if item deleted (CID) values were less than Cronbach alpha, but CID values of item 8 were greater than the alpha value, i.e., .842. Therefore, most of the items were well-aligned with the scale and contributed to its overall reliability, but item 8 didn't fit well with the rest of the items and had a weak relationship to the underlying construct (self-esteem).

Table 14

Construct Reliability and Validity of RSES

LOC	Items	Construct Convergent Validity		Construct Reliability		
		Factor Loading	AVE	Cronbach α	CR (ρ_A)	CR (ρ_C)
Self-Esteem	SES_01	.629	.401	.796	.854	.845
	SES_02	.580				
	SES_03	.604				
	SES_04	.521				
	SES_05	.645				
	SES_06	.774				
	SES_07	.745				
	SES_08	-.214				
	SES_09	.702				
	SES_10	.728				

In Table 14, the Cronbach's alpha (α) and composite reliability-CR (ρ_A & ρ_C) values for the construct (self-esteem) are at a satisfactory level ($> .70$). Therefore, the results revealed that the items utilized to characterize the construct (self-esteem) had adequate internal consistency reliability. The outer loading value for the six indicators (SES_01, SES_02, SES_03, SES_04, SES_05, and SES_08) did not exceed the level of .708. Among them, four indicators (SES_01, SES_02, SES_03, SES_04, and SES_05) passed the level of .40, but one indicator (SES_08) had very low loading (-.214), and thus, this indicator (SES_08) needed to be deleted from the scale.

The AVE value for the construct (self-esteem) did not pass (.401) the acceptance level of .50. The AVE value for the construct (self-esteem) can be increased by removing the indicators that have a loading of below .708. Although six indicators had outer loadings below the .708 level, the removal process should begin with the indicator with the lowest outer loading overall. In Table 14, SES_08, having the lowest outer loading value among the selected indicators, was chosen for removal in the first round of analysis.

Table 15

Construct Reliability and Validity of RSES After Adjustment

LOC	Items	Construct Convergent Validity		Construct Reliability		
		Factor Loading	AVE	Cronbach α	CR (ρ_A)	CR (ρ_C)
Self-Esteem	SES_03	.627	.529	.823	.841	.87
	SES_05	.648				
	SES_06	.751				
	SES_07	.775				
	SES_09	.771				
	SES_10	.776				

After removing SES_08, the model was reanalyzed to determine the outer loading values, construct reliability, and the adjusted AVE. The item removal process was repeated until the AVE value for the construct (self-esteem), which was initially below the .50 level, increased and surpassed that threshold. Table 15 shows the convergent reliability and validity values after the removal of the second, third, and fourth indicators (SES_01, SES_02, and SES_04). When SES_04 removal occurred, the AVE value for the construct (self-esteem) increased to .529. The values of outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE for the construct (self-esteem) and indicator involved, reached acceptable and satisfactory

levels after adjustment. Here, only two items of RSE scale (SES_03 and SES_05) have outer loading values of .627, and .648, respectively, but were retained due to their sufficient contribution to improving CR and AVE values. Therefore, the construct reliability and construct convergent validity of the RSE scale were established by removing four items: SES_01, SES_02, SES_04, and SES_08.

2.4.5.3 Item Analysis, Principal Component Analysis, and Construct Reliability and Validity of IIS (Discomfort & Frequency). Table 16 presents item analysis, i.e., response frequencies and item descriptives for the Discomfort Scale of Inventory of Interpersonal Situations (IIS). For most of the items on the different subscales (giving criticism, expressing opinions, giving compliments, initiating contacts, positive self-evaluation, and others) in the IIS: Discomfort scale, responses were clustered at the lower end of the scale, indicating lower social anxiety. Most of the items on the scale were found to have floor effects and nearly half of the items were found to have ceiling effects. Though both floor and ceiling effects occurred at high rates, in most cases, the full range of possible responses had been used, satisfactorily supporting the overall sensitivity of the scale's measurement model.

The mean and standard deviation of all the items on the scale fell to a moderate level, but the standard deviation for items 8, 13, 24, and 25 were at high levels. On average, respondents tended to show a moderate level of agreement for most of the items of the IIS: Discomfort scale with responses being moderately varied in their opinions. All items of the scale were distributed normally based on skewness and kurtosis because they were in the recommended cut-off score. Though some of the items' distributions were negatively skewed (or asymmetric) and negative kurtosis (platykurtic), none of these indexes were found outside of the range that was determined as extreme.

Table 16*Item Properties of the IIS: Discomfort*

LOC	Items	Response Scale (%)					Item Descriptives								
		1 (FE)	2	3	4	5 (CE)	M	SD	Skew	Kurt	AIIC	AITC	CITC	α	CID
Giving Criticism	IIS_D_02	15.12	19.77	31.98	25.58	7.56	2.91	1.166	-0.108	-0.829			.242		.819
	IIS_D_08	33.14	15.70	7.56	9.30	34.30	2.96	1.721	0.078	-1.739			.578		.770
	IIS_D_10	20.93	20.35	26.74	22.67	9.30	2.79	1.267	0.052	-1.058			.461		.789
	IIS_D_21	18.02	23.84	16.86	17.44	23.84	3.05	1.448	0.025	-1.380	.358	.669	.625	.802	.759
	IIS_D_25	22.09	15.70	16.28	18.60	27.33	3.13	1.522	-0.138	-1.448			.706		.742
	IIS_D_31	20.93	15.70	13.95	23.84	25.58	3.17	1.496	-0.218	-1.405			.581		.767
	IIS_D_33	14.53	22.67	23.84	20.35	18.60	3.06	1.328	-0.002	-1.143			.541		.776
Expressing Opinions	IIS_D_14	11.05	27.33	34.30	17.44	9.88	2.88	1.130	0.194	-0.616			.577		.729
	IIS_D_16	13.37	19.77	37.79	19.77	9.30	2.92	1.142	-0.006	-0.619			.573		.730
	IIS_D_20	11.05	22.67	26.74	19.19	20.35	3.15	1.289	-0.020	-1.075	.368	.688	.560	.775	.732
	IIS_D_30	22.09	19.19	32.56	19.19	6.98	2.70	1.210	0.079	-0.916			.401		.771
	IIS_D_32	20.35	18.60	24.42	23.26	13.37	2.91	1.330	-0.009	-1.151			.494		.750
	IIS_D_34	11.63	26.16	26.74	16.28	19.19	3.05	1.290	0.117	-1.068			.536		.738
Giving Compliments	IIS_D_09	33.72	17.44	30.23	13.37	5.23	2.39	1.226	0.355	-0.915			.581		.706
	IIS_D_17	38.95	10.47	22.09	16.86	11.63	2.52	1.441	0.333	-1.284	.455	.769	.671	.765	.649
	IIS_D_23	35.47	20.93	18.02	13.95	11.63	2.45	1.395	0.509	-1.045			.553		.716
	IIS_D_24	31.40	16.28	19.19	11.63	21.51	2.76	1.533	0.251	-1.398			.476		.763
Initiating Contacts	IIS_D_01	29.07	27.91	28.49	9.88	4.65	2.33	1.135	0.510	-0.476			.088		.744
	IIS_D_12	23.26	24.42	23.84	17.44	11.05	2.69	1.305	0.265	-1.031			.360		.655
	IIS_D_13	29.07	16.86	8.14	11.63	34.30	3.05	1.683	-0.016	-1.705	.280	.649	.544	.677	.569
	IIS_D_15	16.86	27.91	20.35	13.95	20.93	2.94	1.392	0.197	-1.237			.697		.496
	IIS_D_29	12.21	22.67	26.16	18.60	20.35	3.12	1.308	-0.006	-1.103			.497		.598

LOC	Items	Response Scale (%)					Item Descriptives								
		1 (FE)	2	3	4	5 (CE)	M	SD	Skew	Kurt	AIIC	AITC	CITC	α	CID
Positive Self- Evaluation	IIS_D_04	28.49	23.26	23.84	16.86	7.56	2.52	1.273	0.348	-0.978			.362		.734
	IIS_D_26	31.40	25.00	13.37	18.60	11.63	2.54	1.399	0.421	-1.179	.383	.733	.606	.717	.587
	IIS_D_27	24.42	26.16	16.28	20.93	12.21	2.70	1.363	0.257	-1.212			.606		.588
	IIS_D_28	22.09	25.58	33.14	12.21	6.98	2.56	1.166	0.326	-0.606			.456		.682
Other	IIS_D_03	9.30	20.35	31.40	24.42	14.53	3.15	1.178	-0.091	-0.798			.371		.710
	IIS_D_05	16.86	26.16	25.58	20.35	11.05	2.83	1.249	0.153	-0.977			.316		.719
	IIS_D_06	12.79	20.35	14.53	20.35	31.98	3.38	1.436	-0.303	-1.317			.526		.681
	IIS_D_07	20.93	26.74	18.60	17.44	16.28	2.81	1.381	0.232	-1.206			.495		.687
	IIS_D_11	15.12	23.84	27.91	19.19	13.95	2.93	1.264	0.097	-0.976	.230	.561	.354	.729	.713
	IIS_D_18	15.70	23.26	23.84	18.60	18.60	3.01	1.342	0.052	-1.159			.474		.692
	IIS_D_19	9.88	22.67	26.16	29.65	11.63	3.10	1.175	-0.140	-0.885			.490		.691
	IIS_D_22	16.28	23.26	12.21	21.51	26.74	3.19	1.464	-0.134	-1.427			.373		.711
	IIS_D_35	23.26	29.07	22.09	12.21	13.37	2.63	1.324	0.441	-0.911			.242		.732

The average inter-item correlation (AIIC) for giving criticism, expressing opinions, giving compliments, initiating contacts, positive self-evaluation, and other subscales were found to be .358, .368, .455, .280, .383, and .230 respectively and it indicates good internal consistency between different items on the respective subscales. The average item-total correlation (AITC) for giving criticism, expressing opinions, giving compliments, initiating contacts, positive self-evaluation, and other subscales were found to be .669, .688, .769, .649, .733, and .561 respectively and it reflects the very good relations of individual items to the respective subscales. The corrected item-total correlations of most of the items in the subscales were within the recommended cut-off score and it suggests all items, except items 1, 2, and 35, were identified as acceptable.

The Cronbach alpha for giving criticism, expressing opinions, giving compliments, initiating contacts, positive self-evaluation, and other subscales was found to be .802, .775, .765, .677, .717, and .729 respectively and it reflects good internal consistency reliability of the subscales. Most of the Cronbach alpha if item deleted (CID) values were less than Cronbach alpha of the respective subscales, but the CID values of item 1 (.744) was greater than the alpha value on initiating contact subscale, item 2 (.819) was greater than the alpha value on giving criticism subscale, item 4 (.734) was greater than the alpha value on positive self-evaluation subscale, and item 35 (.732) was greater than the alpha value on other subscale. Therefore, most of the items were well-aligned with the respective subscales and contributed to subscales' reliability, but items 1, 2, 4, and 35 didn't fit well with the rest of the items on the respective subscales and had weak relationships to the underlying constructs, such as initiating contact, giving criticism, positive self-evaluation, and other, respectively.

Table 17*Item Properties of the IIS: Frequency*

LOC	Items	Response Scale (%)					Item Descriptives								
		1 (FE)	2	3	4	5 (CE)	M	SD	Skew	Kurt	AIIC	AITC	CITC	α	CID
Giving Criticism	IIS_F_02	7.00	18.00	39.50	25.60	9.90	3.13	1.048	-0.117	-0.391			.234		.781
	IIS_F_08	27.30	25.60	19.20	9.30	18.60	2.66	1.444	0.431	-1.138			.505		.735
	IIS_F_10	9.30	24.40	29.70	20.30	16.30	3.10	1.212	0.048	-0.921			.312		.771
	IIS_F_21	9.30	18.00	21.50	26.70	24.40	3.39	1.286	-0.327	-1.002	.311	.639	.604	.767	.714
	IIS_F_25	21.50	18.00	25.60	14.50	20.30	2.94	1.417	0.079	-1.237			.622		.707
	IIS_F_31	18.60	24.40	20.30	17.40	19.20	2.94	1.392	0.118	-1.251			.563		.721
	IIS_F_33	9.30	21.50	26.70	22.70	19.80	3.22	1.251	-0.100	-1.009			.559		.724
Expressing Opinions	IIS_F_14	4.70	20.90	38.40	20.90	15.10	3.21	1.083	0.077	-0.633			.480		.755
	IIS_F_16	5.20	18.00	33.10	25.60	18.00	3.33	1.124	-0.134	-0.728			.547		.739
	IIS_F_20	10.50	21.50	29.10	16.90	22.10	3.19	1.289	-0.021	-1.059	.369	.687	.585	.778	.728
	IIS_F_30	6.40	20.90	34.90	21.50	16.30	3.2	1.139	0	-0.746			.442		.764
	IIS_F_32	7.00	11.60	40.10	21.50	19.80	3.35	1.133	-0.196	-0.503			.597		.726
	IIS_F_34	9.90	16.90	32.60	21.50	19.20	3.23	1.225	-0.146	-0.838			.499		.751
Frequency: Giving Compliments	IIS_F_09	11.60	11.60	29.70	24.40	22.70	3.35	1.273	-0.354	-0.808			.458		.656
	IIS_F_17	8.70	8.10	20.90	27.90	34.30	3.71	1.26	-0.748	-0.408	.371	.727	.494	.702	.634
	IIS_F_23	11.60	17.40	25.00	19.80	26.20	3.31	1.34	-0.223	-1.11			.479		.644
	IIS_F_24	8.10	18.60	19.20	24.40	29.70	3.49	1.309	-0.378	-1.063			.517		.620
Frequency: Initiating Contacts	IIS_F_01	8.10	11.60	27.90	30.20	22.10	3.47	1.192	-0.462	-0.57			.206		.749
	IIS_F_12	12.80	17.40	27.90	22.10	19.80	3.19	1.293	-0.155	-1.004			.346		.705
	IIS_F_13	25.60	15.70	20.90	12.20	25.60	2.97	1.529	0.059	-1.438	.323	.676	.510	.707	.640
	IIS_F_15	9.90	23.80	27.90	16.90	21.50	3.16	1.283	0.027	-1.08			.712		.552
	IIS_F_29	5.20	22.70	25.00	20.30	26.70	3.41	1.246	-0.134	-1.152			.591		.608

LOC	Items	Response Scale (%)					Item Descriptives								
		1 (FE)	2	3	4	5 (CE)	M	SD	Skew	Kurt	AIIC	AITC	CITC	α	CID
Frequency: Positive Self- Evaluation	IIS_F_04	5.80	12.20	28.50	30.80	22.70	3.52	1.142	-0.44	-0.522			.313		.686
	IIS_F_26	13.40	21.50	19.80	27.30	18.00	3.15	1.316	-0.158	-1.146	.333	.707	.500	.699	.567
	IIS_F_27	7.00	18.60	30.80	22.10	21.50	3.33	1.204	-0.142	-0.892			.574		.515
	IIS_F_28	5.80	20.30	38.40	22.10	13.40	3.17	1.082	0.023	-0.562			.429		.617
Other	IIS_F_03	2.30	15.70	33.10	31.40	17.40	3.46	1.03	-0.17	-0.64			.369		.723
	IIS_F_05	3.50	19.20	34.90	24.40	18.00	3.34	1.09	-0.03	-0.77			.305		.733
	IIS_F_06	8.10	18.00	25.00	25.60	23.30	3.38	1.25	-0.27	-0.95			.456		.708
	IIS_F_07	8.70	23.80	26.70	22.70	18.00	3.17	1.23	-0.03	-1.00			.452		.709
	IIS_F_11	2.90	16.30	26.70	25.60	28.50	3.60	1.15	-0.31	-0.93	.238	.568	.317	.739	.731
	IIS_F_18	11.60	26.70	25.00	18.60	18.00	3.05	1.28	0.10	-1.08			.521		.696
	IIS_F_19	3.50	13.40	27.90	30.80	24.40	3.59	1.10	-0.39	-0.62			.533		.697
	IIS_F_22	11.60	19.80	25.60	22.10	20.90	3.21	1.30	-0.14	-1.06			.484		.703
	IIS_F_35	9.90	15.70	30.80	23.80	19.80	3.28	1.23	-0.22	-0.83			.299		.736

Table 17 presents item analysis, i.e., response frequencies and item descriptives for the Frequency scale of Inventory of Interpersonal Situations (IIS). For most of the items on the different subscales (giving criticism, expressing opinions, giving compliments, initiating contacts, positive self-evaluation, and others) in the IIS: Frequency scale, responses were clustered at the upper end of the scale, indicating greater social anxiety, as this was expected in a population having social anxiety. Most of the items on the scale were found to have no floor effects and most of the items were found to have ceiling effects. In most cases, the full range of possible responses had been used, satisfactorily supporting the overall sensitivity of the scale's measurement model.

The mean and standard deviation of most of the items of the scale fell to a moderate level and thus, on average, respondents tended to show a moderate level of agreement for most of the items of the IIS: Frequency scale with responses being moderately varied in their opinions. All items on the scale were distributed normally based on skewness and kurtosis because they were in the recommended cut-off score. Though some of the items' distributions were negatively skewed (or asymmetric) and negative kurtosis (platykurtic), none of these indexes were found outside of the range that was determined as extreme.

The average inter-item correlation (AIIC) for giving criticism, expressing opinions, giving compliments, initiating contacts, positive self-evaluation, and other subscales were found to be .311, .369, .371, .323, .333, and .238 respectively and it indicate good internal consistency between different items on the respective subscales. The average item-total correlation (AITC) for giving criticism, expressing opinions, giving compliments, initiating contacts, positive self-evaluation, and other subscales were found to be .639, .687, .727, .676, .707, and .568 respectively and it

reflects the very good relations of individual items to the respective subscales. The corrected item-total correlations of most of the items in the subscales were within the recommended cut-off score and it suggests all items, except items 1 and 2, were identified as acceptable.

The Cronbach alpha for giving criticism, expressing opinions, giving compliments, initiating contacts, positive self-evaluation, and other subscales were found to be .767, .778, .702, .707, .699, and .739 respectively and it reflect good internal consistency reliability of the subscales. Most of the Cronbach alpha if item deleted (CID) values were less than the Cronbach alpha of the respective subscales, but CID values of item 1 (.749) was greater than the alpha value on initiating contact subscale, and items 2 (.744) and 10 (.771) were greater than the alpha value on giving criticism subscale. Therefore, most of the items were well-aligned with the respective subscales and contributed to subscales' reliability, but items 1, 2, and 10 didn't fit well with the rest of the items on the respective subscales and had weak relationships to the underlying constructs, such as initiating contact, and giving criticism, respectively.

To investigate the dimensional structure of the subscale, "Others" (9 items), under the Discomfort and Frequency scale of IIS, Exploratory Factor Analysis (EFA) using Principal Component Analysis (PCA) with Promax, and the Kaiser normalization rotational method was carried out (see Table 18). The initial inspection of the correlation matrix (*R*-matrix) in both scales of IIS (Discomfort and Frequency) indicated a substantial number of the coefficients were above .30. To assess the suitability of the data for factor analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity were evaluated.

The KMO indexes for the subscale “Others” in the Discomfort and Frequency scales were 0.763 and 0.794, respectively, exceeding the recommended value of 0.60 (Kaiser, 1970), indicating that the items in the PCA were interrelated. Bartlett’s Tests of Sphericity for the subscale “Others” reached statistical significance both in the Discomfort scale ($\chi^2 = 277.245, p < .001$) and Frequency scale ($\chi^2 = 252.417, p < .001$), indicating that the *R*-matrix was not identity matrix, which was suitable for PCA.

Table 18

Principal Component Analysis of 9 Items (Labelled as Other) of IIS: Discomfort & Frequency

Item No	Discomfort		Frequency	
	Self-Assertion	Expressing Feelings & Desires	Self-Assertion	Expressing Feelings & Desires
3	.335	.304	.453	
5		.635		.399
6	.771		.788	
7	.821		.762	
11		.542		.690
18	.412	.381	.468	.348
19		.688		.632
22	.789		.740	
35		.751		.771
Eigen Value	2.907	1.386	2.972	1.121
% of Variance Explained	32.305	15.402	33.025	12.455
Cumulative % of Variance Explained	32.305	47.707	33.025	45.480
KMO		0.763		0.794
Bartlett's Test of Sphericity	χ^2 (36)	277.245		252.417
	<i>p</i>	<.001		<.001

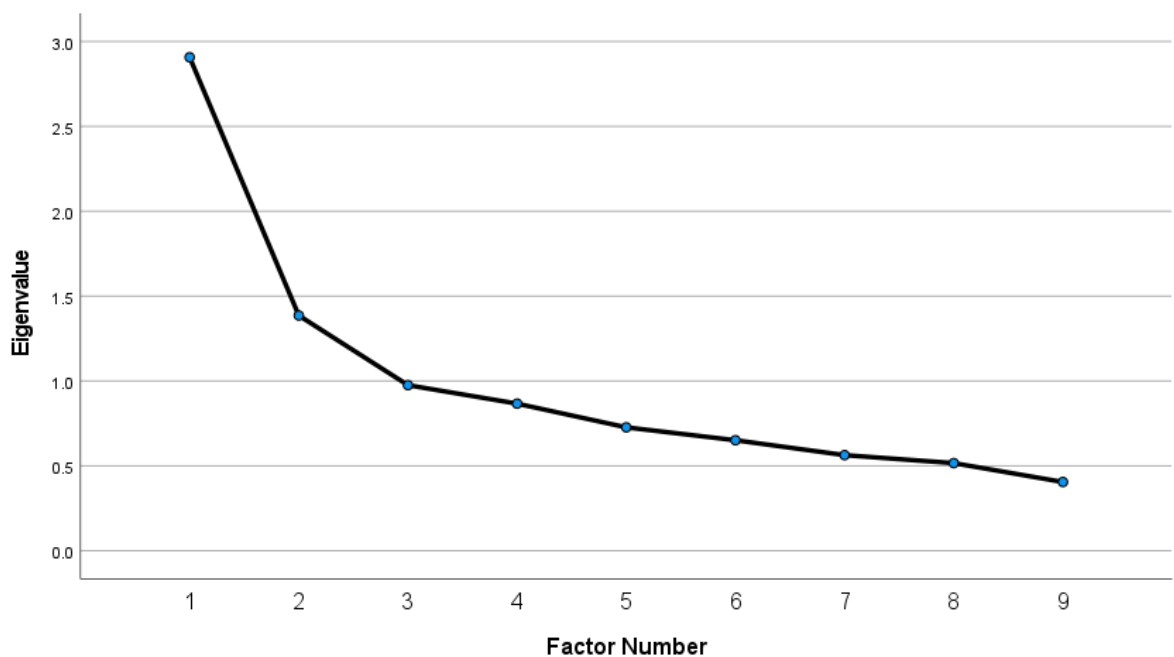
Rotation Method: Promax with Kaiser Normalization

Coefficient Display Format: Suppress small coefficient below .30

The results of the initial analysis revealed two factors with Eigenvalues over 1 both in Discomfort and Frequency scales, explaining 47.707% and 45.48% cumulative variances respectively. Also, the Scree plots for both the Discomfort scale (Figure 3) and Frequency scale (Figure 4) suggest a potential two-factor solution for the other subscales.

Figure 3

The Output of Scree Plot Illustrated that the Others Subscale in the Discomfort Scale of IIS has Two Factors



Following some factor retention criteria, i.e., Eigenvalues greater than 1, Scree plot, no factors with fewer than three items, no items which cross-loaded greater than .3 across factors, seven items were retained for the final others subscale in the Discomfort scale with two latent factors. Three items (IIS_D_06, IIS_D_07, and IIS_D_22) were loaded on first factor, referring to the perception of “Self-Assertion” and four items (IIS_D_05, IIS_D_11, IIS_D_19, and IIS_D_35) were loaded on the

second factor, referring to the perception of “Expressing Feelings & Desires”. Following the same criteria, eight items were retained for the final others subscale in the Frequency scale with two latent factors. Four items (IIS_F_03, IIS_F_06, IIS_F_07, and IIS_F_22) were loaded on the first factor, referring to the perception of “Self-Assertion” and four items (IIS_F_05, IIS_F_11, IIS_F_19, and IIS_F_35) were loaded on the second factor, referring to the perception of “Expressing Feelings & Desires”. The PCA analysis shows that the items related to “Self-Assertion” and “Expressing Feelings & Desires” are distinct but correlated constructs. Together, they explain a significant portion of the variance in responses, highlighting their importance in understanding respondents’ attitudes and behaviors related to those constructs.

Figure 4

The Output of Scree Plot Illustrated that the Others Subscale in the Frequency Scale of IIS has Two Factors

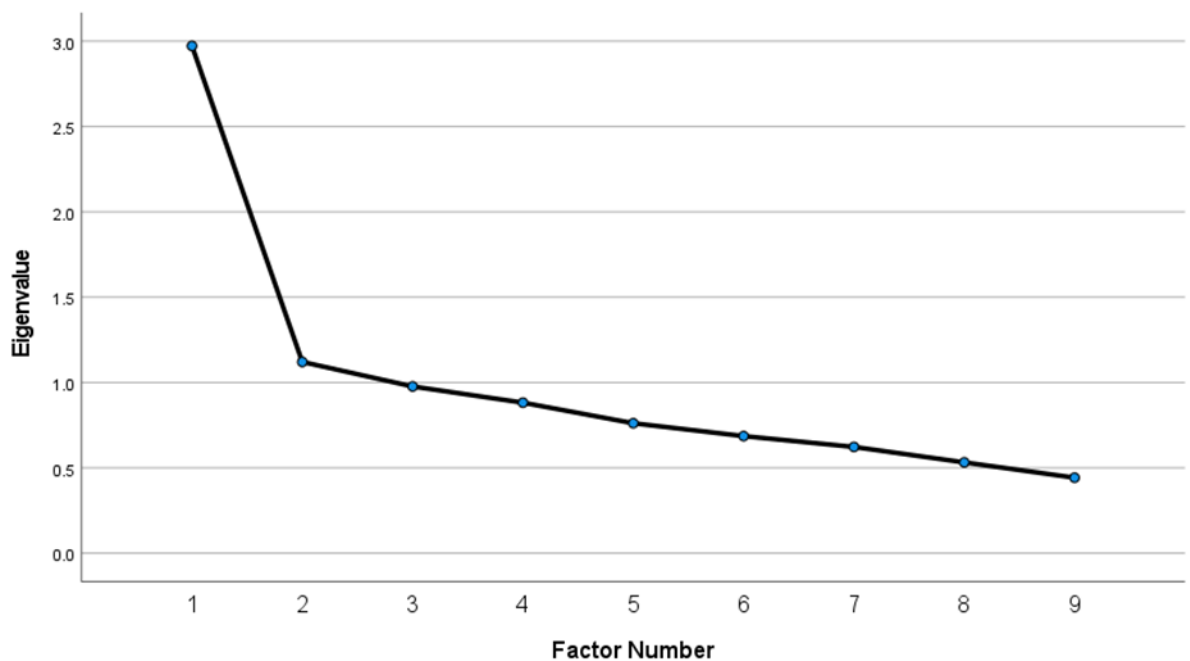


Table 19*Construct Reliability and Validity of IIS: Discomfort*

LOC	Items	Construct Convergent Validity		Construct Reliability		
		Factor Loading	AVE	Cronbach α	CR (ρ_A)	CR (ρ_C)
Giving Criticism	IIS_D_02	0.361	0.465	0.796	0.819	0.854
	IIS_D_08	0.724				
	IIS_D_10	0.612				
	IIS_D_21	0.762				
	IIS_D_25	0.816				
	IIS_D_31	0.712				
	IIS_D_33	0.685				
Expressing Opinions	IIS_D_14	0.735	0.476	0.777	0.787	0.844
	IIS_D_16	0.735				
	IIS_D_20	0.742				
	IIS_D_30	0.549				
	IIS_D_32	0.653				
	IIS_D_34	0.706				
Giving Compliments	IIS_D_09	0.639	0.548	0.77	0.9	0.827
	IIS_D_17	0.693				
	IIS_D_23	0.748				
	IIS_D_24	0.863				
Initiating Contacts	IIS_D_01	0.247	0.46	0.66	0.743	0.792
	IIS_D_12	0.562				
	IIS_D_13	0.798				
	IIS_D_15	0.874				
	IIS_D_29	0.723				
Positive Self-Evaluation	IIS_D_04	0.459	0.535	0.713	0.785	0.815
	IIS_D_26	0.862				
	IIS_D_27	0.797				
	IIS_D_28	0.743				
Self-Assertion	IIS_D_06	0.81	0.644	0.722	0.725	0.844
	IIS_D_07	0.841				
	IIS_D_22	0.754				
Expressing Feelings & Desires	IIS_D_05	0.565	0.446	0.587	0.623	0.76
	IIS_D_11	0.682				
	IIS_D_19	0.799				
	IIS_D_35	0.603				

In Table 19, most of the Cronbach's alpha (α) and composite reliability-CR (ρ_A & ρ_C) values for the LOCs of IIS: Discomfort are at a satisfactory level ($> .70$). The results revealed that the items utilized to characterize the LOC (giving criticism) had adequate internal consistency reliability. The outer loading value for the three indicators (IIS_D_02, IIS_D_10, and IIS_D_33) did not exceed the level of .708. Among them, two indicators (IIS_D_10 and IIS_D_33) passed the level of .40, but one indicator (IIS_D_02) had low loading (.361) and thus, this indicator (IIS_D_02) needed to be deleted from the scale.

The AVE value for the LOC (giving criticism) did not pass (.465) the acceptance level of .50. The AVE value for the construct (giving criticism) can be increased by removing the indicators that have a loading of below .708. Although three indicators had outer loadings below the .708 threshold, the removal process should begin with the indicator having the lowest loading overall. As shown in Table 19, IIS_D_02 has the lowest outer loading value among the indicators and was therefore chosen for removal in the first-round analysis.

After removing IIS_D_02, the model was reanalyzed to obtain the values of outer loading, construct reliability, and the new AVE following realignment. The item removal process continued until the construct's AVE value (giving criticism) increased from below .50 level to above the threshold. Table 20 displays the convergent reliability and validity values after the second indicator (IIS_D_10) was removed. When IIS_D_10 was removed, the AVE value for the construct (giving criticism) increased to .583. The values of outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE for the construct (giving criticism) and the involved indicator reached an acceptable and satisfactory level after adjustment. Here, only one item (IIS_D_33) of LOC (giving criticism) has an outer loading value

of .699 but was retained due to their sufficient contribution to better CR and AVE values. Thus, the construct reliability and construct convergent validity of the LOC (giving criticism) were established by removing two items, IIS_D_02 and IIS_D_10.

Like the “giving criticism” as an LOC, the items utilized to characterize the LOC (expressing opinions) had adequate internal consistency reliability. The outer loading value for the two indicators (IIS_D_30 and IIS_D_32) did not exceed the level of .708. The AVE value for the LOC (expressing opinions) did not pass (.476) the acceptance level of .50. The AVE value for the construct (expressing opinions) can be increased by removing the indicators that have a loading of below .708. In Table 19, IIS_D_30 has the lowest outer loading value among the indicators ultimately chosen for removal in the first-round analysis.

After IIS_D_30 was removed, the model was reanalyzed to determine the new values for outer loading, construct reliability, and AVE. The removal of IIS_D_30 resulted in the AVE value for the construct (expressing opinions) increasing to .526 (refer to Table 20). The adjusted values of outer loading, Cronbach’s alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE for the construct (expressing opinions) and the associated indicators ultimately reached an acceptable and satisfactory level. Notably, only one item of LOC (expressing opinions) (IIS_D_32) had an outer loading value of .646 but was retained due to its sufficient contribution to improving CR and AVE values. Thus, the construct reliability and construct convergent validity of the LOC (expressing opinions) is established through the removal of an item, IIS_D_30.

Table 20*Construct Reliability and Validity of IIS: Discomfort After Adjustment*

LOC	Items	Construct Convergent Validity		Construct Reliability		
		Factor Loading	AVE	Cronbach α	CR (ρ_A)	CR (ρ_C)
Giving Criticism	IIS_D_08	.770	.583	.820	.825	.874
	IIS_D_21	.798				
	IIS_D_25	.834				
	IIS_D_31	.709				
	IIS_D_33	.699				
Expressing Opinions	IIS_D_14	.738	.526	.774	.779	.847
	IIS_D_16	.746				
	IIS_D_20	.773				
	IIS_D_32	.646				
	IIS_D_34	.718				
Giving Compliments	IIS_D_09	.577	.517	.770	.966	.806
	IIS_D_17	.629				
	IIS_D_23	.723				
	IIS_D_24	.903				
Initiating Contacts	IIS_D_12	.545	.575	.741	.779	.840
	IIS_D_13	.833				
	IIS_D_15	.887				
	IIS_D_29	.723				
Positive Self-Evaluation	IIS_D_04	.445	.533	.713	.792	.813
	IIS_D_26	.868				
	IIS_D_27	.796				
	IIS_D_28	.740				
Self-Assertion	IIS_D_06	.807	.643	.722	.723	.844
	IIS_D_07	.838				
	IIS_D_22	.759				
Expressing Feelings & Desires	IIS_D_11	.727	.532	.565	.611	.770
	IIS_D_19	.836				
	IIS_D_35	.607				

Table 19 shows that the items utilized to characterize the LOC (giving compliments) had adequate internal consistency reliability. The outer loading value for the two indicators (IIS_D_09 and IIS_D_17) did not exceed the level of .708.

The AVE value for the LOC (giving compliments) passed the acceptance level of .50. When the removal of some items in other constructs occurred, the outer loadings for the same two indicators did not exceed the level of .708 but the AVE value for the construct (giving compliments) passed the acceptance level of .50 (see Table 20). The adjusted values of outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE for the construct (expressing opinions) and its indicators ultimately achieved an acceptable and satisfactory level. Therefore, the construct reliability and construct convergent validity of the LOC (giving compliments) were achieved.

The results also revealed that the items utilized to characterize the LOC (initiating contacts) had adequate internal consistency reliability. The outer loading value for the two indicators (IIS_D_01 and IIS_D_12) did not exceed the level of .708. Among them, an indicator (IIS_D_12) passed the level of .40, but one indicator (IIS_D_01) had low loading (.247), and thus, this indicator (IIS_D_01) needed to be deleted from the scale.

The AVE value for the LOC (initiating contracts) did not pass (.460) the acceptance level of .50. The AVE value for the construct (initiating contacts) can be increased by removing the indicators, IIS_D_01 or IIS_D_12, one by one. When IIS_D_01 removal occurred, the AVE value for the construct (initiating contacts) increased to .575 (see Table 20). The indicators for construct 'initiating contacts' reached acceptable levels for outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE after adjustment, meeting satisfactory standards. Here, only one item of LOC (initiating contacts) (IIS_D_12) has outer loading values of .545, but is retained due to its sufficient contribution in the better values of CR and

AVE. Therefore, the construct reliability and construct convergent validity of the LOC (initiating contacts) were established by removing the item IIS_D_01.

Table 19 reveals that the items utilized to characterize the LOC (positive self-evaluation) had adequate internal consistency reliability. The outer loading value for an indicator (IIS_D_04) did not exceed the level of .708. The AVE value for the LOC (positive self-evaluation) passed the acceptance level of .50. When the removal of some items in other constructs occurred, the AVE value for the construct (giving compliments) passed the acceptance level of .50 (see Table 20). Thus, the construct reliability and construct convergent validity of the LOC (positive self-evaluation) is established.

Table 19 also shows that the items utilized to characterize the LOC (self-assertion) had adequate internal consistency reliability. The outer loading value for the three indicators exceeded the level of .708. The AVE value for the LOC (self-assertion) passed the acceptance level of .50. When the removal of some items in other constructs occurred, the AVE value for the construct (self-assertion) passed the acceptance level of .50 (see Table 20). Thus, the construct reliability and construct convergent validity of the LOC (self-assertion) is established.

The results revealed that the outer loading value for the three indicators (IIS_D_05, IIS_D_11 and IIS_D_35) did not exceed the level of .708. The AVE value for the LOC (expressing feelings and desires) did not pass (.446) the acceptance level of .50. The AVE value for the construct (expressing feelings and desires) can be increased by removing the indicators that have a loading of below .708. In Table 19, IIS_D_05 has the lowest outer loading value among the indicators and was chosen to be removed in the first-round analysis. When IIS_D_05 removal occurred, the AVE

value for the construct (expressing feelings and desires) increased to .532 (see Table 20). The outer loading, composite reliability-CR (ρ_C), and AVE values for the construct (expressing feelings and desires) and its indicators reached an acceptable and satisfactory level after adjustment, except for the values of Cronbach's alpha (α) and composite reliability-CR (ρ_A). Here, only one item of LOC (expressing feelings and desires) (IIS_D_35) has outer loading values of .607 but was kept due to its sufficient contribution to improving CR and AVE values. Thus, the construct reliability and construct convergent validity of the LOC (expressing feelings and desires) is established through the removal of an item, IIS_D_05.

In Table 21, most of the Cronbach's alpha (α) and composite reliability-CR (ρ_A & ρ_C) values for the LOCs of IIS: Frequency are at a satisfactory level ($> .70$). The results also revealed that the items utilized to characterize the LOC (giving criticism) had adequate internal consistency reliability. The outer loading value for the three indicators (IIS_F_02, IIS_F_08, and IIS_F_10) did not exceed the level of .708. Among them, two indicators (IIS_F_08 and IIS_F_10) passed the level of .40, but one indicator (IIS_F_02) had low loading (.353) and thus, this indicator (IIS_F_02) needed to be deleted from the scale. The AVE value for the LOC (giving criticism) did not pass (.426) the acceptance level of .50. In Table 21, IIS_F_02 exhibit the lowest outer loading value among the indicators chosen for removal in the the first-round analysis. Following the elimination of IIS_F_02, the model was reanalyzed to determine the outer loading, construct reliability, and the new AVE values after realignment. This item removal process was repeated until the AVE value for the construct (giving criticism) rose above the .50 threshold.

Table 21*Construct Reliability and Validity of IIS: Frequency*

LOC	Items	Construct Convergent Validity		Construct Reliability		
		Factor Loading	AVE	Cronbach α	CR (ρ_A)	CR (ρ_C)
Giving Criticism	IIS_F_02	0.353	0.426	0.759	0.792	0.831
	IIS_F_08	0.665				
	IIS_F_10	0.466				
	IIS_F_21	0.771				
	IIS_F_25	0.774				
	IIS_F_31	0.713				
	IIS_F_33	0.705				
Expressing Opinions	IIS_F_14	0.655	0.476	0.778	0.783	0.844
	IIS_F_16	0.708				
	IIS_F_20	0.75				
	IIS_F_30	0.595				
	IIS_F_32	0.742				
	IIS_F_34	0.676				
Frequency: Giving Compliments	IIS_F_09	0.681	0.521	0.702	0.724	0.812
	IIS_F_17	0.636				
	IIS_F_23	0.768				
	IIS_F_24	0.792				
Frequency: Initiating Contacts	IIS_F_01	0.328	0.482	0.705	0.786	0.81
	IIS_F_12	0.556				
	IIS_F_13	0.754				
	IIS_F_15	0.88				
	IIS_F_29	0.808				
Frequency: Positive Self-Evaluation	IIS_F_04	0.494	0.504	0.667	0.702	0.798
	IIS_F_26	0.777				
	IIS_F_27	0.787				
	IIS_F_28	0.741				
Self-Assertion	IIS_F_03	0.52	0.488	0.647	0.685	0.789
	IIS_F_06	0.717				
	IIS_F_07	0.737				
	IIS_F_22	0.791				
Expressing Feelings	IIS_F_05	0.514	0.423	0.546	0.595	0.74
	IIS_F_11	0.652				
	IIS_F_19	0.81				
	IIS_F_35	0.589				

Table 22*Construct Reliability and Validity of IIS: Frequency After Adjustment*

LOC	Items	Construct Convergent Validity		Construct Reliability		
		Factor Loading	AVE	Cronbach α	CR (ρ_A)	CR (ρ_C)
Giving Criticism	IIS_F_08	.689	.558	.801	.811	.863
	IIS_F_21	.803				
	IIS_F_25	.802				
	IIS_F_31	.725				
	IIS_F_33	.708				
Expressing Opinions	IIS_F_14	.684	.516	.765	.767	.842
	IIS_F_16	.721				
	IIS_F_20	.767				
	IIS_F_32	.738				
	IIS_F_34	.678				
Giving Compliments	IIS_F_09	.680	.522	.702	.724	.812
	IIS_F_17	.640				
	IIS_F_23	.763				
	IIS_F_24	.795				
Initiating Contacts	IIS_F_12	.570	.583	.754	.784	.846
	IIS_F_13	.764				
	IIS_F_15	.881				
	IIS_F_29	.806				
Positive Self-Evaluation	IIS_F_04	.485	.504	.667	.704	.797
	IIS_F_26	.779				
	IIS_F_27	.787				
	IIS_F_28	.743				
Self-Assertion	IIS_F_06	.740	.594	.662	.675	.814
	IIS_F_07	.764				
	IIS_F_22	.806				
Expressing Feelings & Desires	IIS_F_11	.701	.518	.540	.612	.758
	IIS_F_19	.858				
	IIS_F_35	.572				

Table 22 displays the convergent reliability and validity values subsequent to removing the second indicator (IIS_F_10). Upon removing IIS_F_10, the AVE value for the construct (giving criticism) increased to .558. The outer loading, Cronbach's

alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE values for the construct (giving criticism) and involved indicator reached an acceptable and satisfactory level after adjustments. In this context, only one item of LOC (giving criticism) (IIS_F_08) has outer loading value of .689, but was retained due to its significant contribution to the improved values of CR and AVE. Thus, the construct reliability and construct convergent validity of the LOC (giving criticism) in Frequency scale is also established through the removal of two items, namely, IIS_F_02 and IIS_F_10.

Table 21 also shows that the items utilized to characterize the LOC (expressing opinions) had adequate internal consistency reliability. The outer loading value for the three indicators (IIS_F_14, IIS_F_30, and IIS_F_34) did not exceed the level of .708. The AVE value for the LOC (expressing opinions) did not pass (.476) the acceptance level of .50. The AVE value for the construct (expressing opinions) can be increased by removing the indicators that have a loading of below .708. In Table 21, IIS_F_30 has the lowest outer loading value among the indicators, which led to its removal during the first-round analysis.

After IIS_F_30 was removed, the model was reanalyzed to determine values of outer loading, construct reliability, and the new AVE following the realignment. When IIS_F_30 removal occurred, the AVE value for the construct (expressing opinions) increased to .516 (see Table 22). After adjustment, the values of outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE for the construct "expressing opinions" and indicators finally reached an acceptable and satisfactory level. Here, only two items from LOC (expressing opinions) (IIS_F_14 and IIS_F_34) exhibit outer loading values of .684 and .678, respectively. Nonetheless, they were retained due to their significant contribution to enhancing the CR and AVE values. Thus, the construct reliability and construct convergent validity

of the LOC (expressing opinions) is established through the removal of an item, IIS_F_30.

Table 21 shows that the items utilized to characterize the LOC (giving compliments) in Frequency scale had adequate internal consistency reliability. The outer loading value for the two indicators (IIS_F_09 and IIS_F_17) did not exceed the level of .708. The AVE value for the LOC (giving compliments) passed the acceptance level of .50. When the removal of some items in other constructs occurred, the outer loadings for the same two indicators did not exceed the level of .708 but the AVE value for the construct (giving compliments) passed the acceptance level of .50 (see Table 22). For the construct (expressing opinions) and indicators concerned, the values of outer loading, Cronbach's alpha (α), composite reliability- CR (ρ_A & ρ_C), and AVE obtained an acceptable and satisfactory level. Thus, the construct reliability and construct convergent validity of the LOC (giving compliments) were established.

The results also revealed that the items utilized to characterize the LOC (initiating contacts) had adequate internal consistency reliability. The outer loading value for the two indicators (IIS_F_01 and IIS_F_12) did not exceed the level of .708. Among them, an indicator (IIS_F_12) passed the level of .40, but one indicator (IIS_F_01) had low loading (.328) and thus, this indicator (IIS_F_01) needed to be deleted from the scale.

The AVE value for the LOC (initiating contracts) did not pass (.482) the acceptance level of .50. The AVE value for the construct (initiating contacts) can be increased by removing the indicators, IIS_F_01 or IIS_F_12, one by one. When IIS_F_01 removal occurred, the AVE value for the construct (initiating contacts)

increased to .583 (see Table 22). After adjustment, the outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE values for the construct (initiating contacts) and indicator involved eventually attained an acceptable and satisfactory level. Here, only one item of LOC (initiating contacts) (IIS_F_12) has outer loading values of .570 but was retained due to its sufficient contribution to the better values of CR and AVE. Thus, the construct reliability and construct convergent validity of the LOC (initiating contacts) were established by removing an item IIS_F_01.

Table 21 reveals that the items utilized to characterize the LOC (positive self-evaluation) had adequate internal consistency reliability except Cronbach alpha. The outer loading value for an indicator (IIS_F_04) did not exceed the level of .708. The AVE value for the LOC (positive self-evaluation) passed the acceptance level of .50. When the removal of some items in other constructs occurred, the AVE value for the construct (giving compliments) passed the acceptance level of .50 (see Table 22). Thus, the construct reliability and construct convergent validity of the LOC (positive self-evaluation) is established.

Table 21 also shows that the items utilized to characterize the LOC (self-assertion) had internal consistency reliability. The outer loading value for the three indicators except IIS_F_03 (.520) exceeded the level of .708. The AVE value for the LOC (self-assertion) did not pass the acceptance level of .50. The AVE value for the LOC (self-assertion) did not pass (.488) the acceptance level of .50. When IIS_F_03 removal occurred, the AVE value for the construct (initiating contacts) increased to .594 (see Table 22). Therefore, the construct reliability and construct convergent validity of the LOC (self-assertion) were established by eliminating an item IIS_F_03.

The results revealed that the outer loading value for the three indicators (IIS_F_05, IIS_F_11 and IIS_F_35) did not exceed the level of .708. The AVE value for the LOC (expressing feelings and desires) did not pass (.423) the acceptance level of .50. The AVE value for the construct (expressing feelings and desires) can be increased by removing the indicators that have a loading of below .708. In Table 21, out of all the indicators that were ultimately determined to be removed for the initial analysis, IIS_F_05 had the lowest outer loading value. When IIS_F_05 removal occurred, the AVE value for the construct (expressing feelings and desires) increased to .518 (see Table 22). The outer loading values, composite reliability-CR (ρ_C), and AVE values for the construct (expressing feelings and desires) and indicators involved obtained an acceptable and satisfactory level except for the values of Cronbach's alpha (α) and composite reliability-CR (ρ_A) after adjustment. Here, only one item of LOC (expressing feelings and desires) (IIS_F_35) has outer loading values of .572 but was kept since it made a significant enough contribution to the higher CR and AVE values. Thus, the construct reliability and construct convergent validity of the LOC (expressing feelings and desires) is established through the removal of an item, IIS_F_05.

2.4.5.4 Item Analysis, Construct Reliability and Validity of SACQ.

Table 23 presents response frequencies and Table 24 shows item descriptives for the students adaptation to college questionnaire (SACQ). For most of the items on the different subscales (academic adjustment, social adjustment, personal-emotional adjustment, and institutional adjustment) and their clusters in the SACQ, responses were clustered at the lower end of the scale, indicating lower adjustment at the university, as this was expected in a population having social anxiety. About 50% of the items on the scale were found to have both floor effects and ceiling effects.

Table 23*Percentage of Response on Items of the SACQ*

HOC	LOC	Items	Response Scale (%)								
			1	2	3	4	5	6	7	8	9
Academic Adjustment	Motivation	SACQ_05	23.84	19.77	11.63	9.88	13.37	5.81	6.40	4.65	4.65
		SACQ_19	20.93	10.47	11.05	4.07	12.21	8.72	11.63	11.63	9.30
		SACQ_23	50.58	20.35	9.88	3.49	6.40	2.91	2.91	1.74	1.74
		SACQ_32	6.40	8.72	4.65	6.98	17.44	13.95	9.30	14.53	18.02
		SACQ_50	15.12	8.72	9.88	11.63	18.60	8.72	12.21	7.56	7.56
		SACQ_58	11.63	11.05	4.65	5.81	14.53	8.14	9.30	11.05	23.84
	Application	SACQ_03	13.95	11.05	13.37	8.14	9.88	11.05	11.63	10.47	10.47
		SACQ_17	5.81	5.81	4.07	3.49	5.23	7.56	15.70	17.44	34.88
		SACQ_29	4.07	8.72	6.98	4.65	9.88	8.14	9.30	19.77	28.49
		SACQ_44	50.00	18.60	5.81	4.07	7.56	1.74	5.23	3.49	3.49
	Performance	SACQ_06	12.21	11.05	9.30	8.14	12.21	11.05	14.53	12.79	8.72
		SACQ_10	7.56	11.63	12.21	9.30	8.72	6.98	10.47	13.95	19.19
		SACQ_13	9.88	6.98	12.21	5.81	11.63	6.98	10.47	16.86	19.19
		SACQ_21	4.07	6.98	4.65	4.07	5.81	9.30	15.12	18.02	31.98
		SACQ_25	2.91	3.49	5.23	4.07	6.98	6.40	9.88	19.19	41.86
		SACQ_27	8.72	4.07	8.14	8.14	11.63	15.12	6.40	13.37	24.42
		SACQ_39	1.74	1.16	0.00	1.16	9.30	7.56	6.40	14.53	58.14
		SACQ_41	11.05	5.81	13.37	8.72	16.86	8.72	13.37	9.88	12.21
		SACQ_52	7.56	8.72	6.98	5.81	16.86	6.98	11.63	17.44	18.02
	Academic Environment	SACQ_36	15.12	12.21	12.79	5.81	15.70	11.05	13.37	6.40	7.56
		SACQ_43	19.77	12.79	10.47	11.63	13.37	5.23	10.47	8.72	7.56
		SACQ_54	15.12	9.30	9.88	11.63	18.60	5.23	11.05	8.14	11.05
		SACQ_62	16.86	19.19	13.95	8.14	15.12	4.65	11.05	6.40	4.65
		SACQ_66	11.63	10.47	12.21	7.56	12.79	9.88	9.30	10.47	15.70

HOC	LOC	Items	Response Scale (%)								
			1	2	3	4	5	6	7	8	9
Social Adjustment	General	SACQ_01	18.02	14.53	16.86	8.14	14.53	9.88	9.88	2.33	5.81
		SACQ_08	9.88	5.23	4.65	5.23	15.12	9.30	8.72	16.86	25.00
		SACQ_09	11.05	15.12	16.28	9.88	15.12	11.63	8.14	5.81	6.98
		SACQ_18	14.53	9.30	12.21	10.47	11.05	12.21	12.79	3.49	13.95
		SACQ_37	16.86	12.21	12.21	4.07	10.47	6.98	8.72	17.44	11.05
		SACQ_46	18.02	12.21	8.14	6.98	13.95	4.65	11.05	10.47	14.53
		SACQ_65	11.05	12.79	9.30	11.05	16.28	7.56	9.30	6.98	15.70
	Other People	SACQ_04	13.95	9.30	9.88	11.05	15.70	8.72	7.56	12.21	11.63
		SACQ_14	5.23	2.91	3.49	5.81	13.37	4.07	14.53	12.79	37.79
		SACQ_33	15.70	16.28	17.44	8.72	9.30	6.40	8.14	7.56	10.47
		SACQ_42	9.30	8.72	7.56	6.40	11.05	5.23	14.53	16.86	20.35
		SACQ_48	18.60	5.81	8.14	4.07	9.88	4.07	10.47	11.63	27.33
		SACQ_56	11.05	13.37	12.21	7.56	10.47	8.72	11.05	12.21	13.37
		SACQ_63	25.00	15.12	11.63	6.98	8.14	3.49	9.30	8.14	12.21
	Nostalgia	SACQ_22	16.28	11.63	5.81	5.23	13.95	6.40	8.14	11.05	21.51
		SACQ_51	11.05	7.56	5.23	6.98	8.14	9.88	13.95	11.63	25.58
		SACQ_57	15.70	8.72	9.88	12.79	11.63	4.65	8.14	8.72	19.77
	Social Environment	SACQ_16	20.35	13.37	13.37	8.14	19.19	4.07	7.56	4.65	9.30
		SACQ_26	22.09	13.95	12.79	9.88	13.95	4.65	7.56	6.98	8.14
		SACQ_30	14.53	8.14	12.79	8.14	19.19	8.14	11.05	9.88	8.14
	Psychological	SACQ_02	4.07	5.81	5.23	9.30	11.63	10.47	11.05	20.35	22.09
		SACQ_07	4.07	6.98	7.56	2.91	10.47	9.30	6.40	16.86	35.47
		SACQ_12	19.77	15.12	12.21	11.05	16.86	5.23	5.23	6.98	7.56
		SACQ_20	3.49	6.40	6.98	4.65	5.81	9.30	16.86	16.86	29.65
		SACQ_31	13.37	9.30	5.23	4.07	9.88	5.81	13.95	11.05	27.33
		SACQ_38	6.98	6.98	10.47	5.23	14.53	6.98	6.98	12.21	29.65
		SACQ_45	1.16	4.07	3.49	4.07	6.40	6.40	6.98	19.19	48.26

HOC	LOC	Items	Response Scale (%)								
			1	2	3	4	5	6	7	8	9
Institutional Adjustment		SACQ_49	15.12	5.81	5.23	4.07	10.47	5.81	8.14	8.14	37.21
		SACQ_64	5.23	10.47	9.30	10.47	15.12	11.05	11.63	16.28	10.47
	Physical	SACQ_11	1.16	6.40	8.14	3.49	15.70	11.05	11.05	15.12	27.91
		SACQ_24	15.70	9.30	8.72	2.33	14.53	5.81	12.79	15.12	15.70
		SACQ_28	15.12	8.72	11.05	8.72	10.47	5.81	13.95	8.14	18.02
		SACQ_35	9.30	2.91	4.65	2.91	23.84	8.72	13.95	9.88	23.84
		SACQ_40	8.72	8.14	7.56	5.23	6.40	8.72	13.95	10.47	30.81
		SACQ_55	8.72	12.79	12.79	6.40	9.88	5.81	20.35	8.72	14.53
	General	SACQ_15	23.26	16.28	10.47	8.14	17.44	4.65	8.14	3.49	8.14
		SACQ_60	66.28	12.79	4.65	4.65	4.07	1.16	2.91	1.74	1.74
		SACQ_61	50.00	15.12	4.65	4.65	6.98	4.65	5.81	2.91	5.23
	This University	SACQ_16	20.35	13.37	13.37	8.14	19.19	4.07	7.56	4.65	9.30
		SACQ_34	16.28	5.81	5.23	4.65	12.79	6.40	9.88	11.63	27.33
		SACQ_47	52.91	8.14	5.23	4.65	9.88	4.07	1.74	2.91	10.47
		SACQ_59	52.33	13.95	5.23	5.81	8.14	2.91	1.74	2.91	6.98
	Other	SACQ_53	11.05	10.47	8.14	5.81	19.19	7.56	10.47	11.63	15.70
		SACQ_67	19.77	13.37	13.95	9.88	11.05	6.98	8.72	8.14	8.14

Table 24*Item Descriptives of the SACQ*

HOC	LOC	Items	Item Descriptives								
			M	SD	Skew	Kurt	AIIC	AITC	CITC	α	CID
Academic Adjustment	Motivation	SACQ_05	3.63	2.408	0.682	-0.611			.490		.449
		SACQ_19	4.63	2.787	0.077	-1.412			.485		.439
		SACQ_23	2.34	1.975	1.694	2.161	.176	.558	.083	.573	.607
		SACQ_32	5.80	2.482	-0.386	-0.902			.158		.593
		SACQ_50	4.68	2.473	0.059	-1.037			.445		.467
		SACQ_58	5.60	2.836	-0.291	-1.295			.232		.569
	Application	SACQ_03	4.84	2.655	0.050	-1.300			.350		.356
		SACQ_17	6.78	2.521	-1.068	-0.079	.193	.628	.340	.491	.369
		SACQ_29	6.39	2.581	-0.678	-0.884			.235		.467
		SACQ_44	2.65	2.358	1.397	0.729			.223		.473
	Performance	SACQ_06	5.05	2.584	-0.132	-1.248			.377		.697
		SACQ_10	5.48	2.733	-0.141	-1.406			.545		.663
		SACQ_13	5.65	2.731	-0.306	-1.282			.408		.691
		SACQ_21	6.71	2.461	-0.965	-0.258			.560		.663
		SACQ_25	7.15	2.311	-1.194	0.306	.227	.558	.406	.719	.692
		SACQ_27	5.94	2.615	-0.430	-0.981			.167		.735
		SACQ_39	7.85	1.800	-1.810	3.158			.474		.687
		SACQ_41	5.17	2.527	-0.087	-1.098			.278		.715
		SACQ_52	5.78	2.597	-0.397	-1.081			.385		.695
	Academic Environment	SACQ_36	4.59	2.527	0.102	-1.171			.600		.727
		SACQ_43	4.33	2.627	0.292	-1.171			.616		.721
		SACQ_54	4.76	2.597	0.111	-1.126	.418	.731	.531	.782	.750
		SACQ_62	4.03	2.444	0.457	-0.976			.503		.759
		SACQ_66	5.13	2.705	-0.020	-1.302			.537		.749

HOC	LOC	Items	Item Descriptives								
			M	SD	Skew	Kurt	AIIC	AITC	CITC	α	CID
Social Adjustment	General	SACQ_01	4.02	2.379	0.436	-0.824			.611		.821
		SACQ_08	6.08	2.671	-0.585	-0.883			.433		.847
		SACQ_09	4.41	2.376	0.329	-0.908			.759		.800
		SACQ_18	4.83	2.636	0.090	-1.167	.441	.721	.544	.844	.830
		SACQ_37	4.88	2.849	0.011	-1.497			.642		.815
		SACQ_46	4.84	2.856	0.058	-1.416			.576		.826
		SACQ_65	4.98	2.651	0.102	-1.202			.661		.812
	Other People	SACQ_04	4.92	2.638	0.036	-1.206			.518		.665
		SACQ_14	6.80	2.429	-0.938	-0.178			.383		.697
		SACQ_33	4.32	2.662	0.443	-1.120			.560		.654
		SACQ_42	5.81	2.725	-0.440	-1.184	.271	.612	.511	.719	.666
		SACQ_48	5.57	3.078	-0.312	-1.467			.343		.711
		SACQ_56	5.05	2.710	0.004	-1.372			.301		.717
		SACQ_63	4.20	2.897	0.432	-1.309			.417		.690
	Nostalgia	SACQ_22	5.25	2.958	-0.124	-1.457			.069		.386
		SACQ_51	5.91	2.783	-0.499	-1.105	.117	.641	.276	.279	.072
		SACQ_57	5.05	2.861	0.054	-1.380			.130		.255
	Social Environment	SACQ_16	4.14	2.574	0.460	-0.900			.309		.597
		SACQ_26	4.08	2.620	0.477	-0.993	.316	.738	.432	.581	.414
		SACQ_30	4.76	2.519	0.049	-1.108			.434		.414
Personal-Emotional Adjustment	Psychological	SACQ_02	6.28	2.403	-0.609	-0.737			.406		.691
		SACQ_07	6.59	2.579	-0.766	-0.745			.519		.669
		SACQ_12	4.07	2.528	0.498	-0.848	.228	.559	.239	.718	.720
		SACQ_20	6.60	2.439	-0.855	-0.465			.522		.671
		SACQ_31	5.80	2.935	-0.443	-1.289			.400		.692
		SACQ_38	6.01	2.725	-0.391	-1.215			.381		.695

HOC	LOC	Items	Item Descriptives								
			M	SD	Skew	Kurt	AIIC	AITC	CITC	α	CID
Institutional Adjustment		SACQ_45	7.43	2.155	-1.372	0.800			.563		.668
		SACQ_49	6.03	3.042	-0.523	-1.260			.291		.716
		SACQ_64	5.44	2.411	-0.184	-1.106			.276		.713
	Physical	SACQ_11	6.47	2.321	-0.562	-0.829			.312		.488
		SACQ_24	5.29	2.851	-0.226	-1.388			.126		.576
		SACQ_28	5.13	2.828	-0.052	-1.384	.166	.552	.316	.543	.482
		SACQ_35	6.03	2.506	-0.550	-0.617			.164		.550
		SACQ_40	6.12	2.793	-0.563	-1.099			.443		.416
		SACQ_55	5.26	2.661	-0.119	-1.352			.390		.447
	General	SACQ_15	3.93	2.563	0.534	-0.853			.209		.664
		SACQ_60	2.02	1.918	2.134	3.826	.296	.726	.475	.533	.279
		SACQ_61	2.87	2.541	1.175	0.031			.401		.335
	This University	SACQ_16	4.14	2.574	0.460	-0.900			.451		.426
		SACQ_34	5.73	2.964	-0.406	-1.291	.252	.662	.412	.572	.450
		SACQ_47	3.07	2.796	1.087	-0.242			.258		.578
		SACQ_59	2.76	2.524	1.369	0.644			.312		.533
	Other	SACQ_53	5.28	2.666	-0.138	-1.218	.433	.846	.433	.604	N/A
		SACQ_67	4.24	2.636	0.377	-1.128			.433		

In most instances, all potential answers had been given, which adequately supported the scale's measurement model. The mean and standard deviation of most of the items of the scale fell to a moderate level and thus, on average, respondents tended to show a moderate level of agreement for most of the items of the SACQ with responses being moderately varied in their opinions. Most of the items on the scale were distributed normally based on skewness and kurtosis because they were in the recommended cut-off score. Though some of the items' distributions were negatively skewed (or asymmetric) and negative kurtosis (platykurtic), only items 39 and 60 were found outside of the range of kurtosis.

The average inter-item correlation (AIIC) for the clusters of academic adjustment subscale were: motivation (.176), application (.193), performance (.227), and academic environment (.418); for the clusters of social adjustment subscale were: general (.441), other people (.271), nostalgia (.117), and social environment (.316); for the clusters of personal-emotional adjustment subscale were: psychological (.228), and physical (.166); for the clusters of institutional adjustment subscale were: general (.296), and this university (.252); and for the other two items (items 53 and 67) were .433 and these indicate good internal consistency between different items on the different clusters (except nostalgia) of the respective subscales.

The average item-total correlation (AITC) for the clusters of academic adjustment subscale were: motivation (.558), application (.628), performance (.558), and academic environment (.731); for the clusters of social adjustment subscale were: general (.721), other people (.612), nostalgia (.614), and social environment (.738); for the clusters of personal-emotional adjustment subscale were: psychological (.559), and physical (.552); for the clusters of institutional adjustment subscale were: general (.726), and this university (.662); and for the other two items (items 53 and 67) were

.846 and these indicate very good relations of individual items to the respective clusters of the subscales.

The corrected item-total correlations (CITC) of most of the items in the respective clusters in the subscales were within the recommended cut-off score and these suggest all items, except items 12, 15, 22, 23, 24, 27, 29, 32, 35, 41, 44, 47, 49, 51, 57, 58, and 64, were identified as acceptable. The Cronbach alpha for the clusters of academic adjustment subscale were: motivation (.573), application (.491), performance (.719), and academic environment (.782); for the clusters of social adjustment subscale were: general (.844), other people (.719), nostalgia (.279), and social environment (.581); for the clusters of personal-emotional adjustment subscale were: psychological (.718), and physical (.543); for the clusters of institutional adjustment subscale were: general (.533), and this university (.572); and for the other two items (items 53 and 67) were .604 and these reflect good internal consistency reliability in most of the clusters, but poor internal consistency in motivation, application, social environment, physical adjustment, general, and this university; and very poor internal consistency in nostalgia .

Most of the Cronbach alpha if item deleted (CID) values were less than the Cronbach alpha of the respective clusters under subscales, but CID values of items 8, 12, 15, 22, 23, 24, 27, 32, 35, and 47 were greater than the alpha value on the respective clusters. Therefore, most of the items were well-aligned with the respective clusters under subscales and contributed to clusters' reliability, but items 8, 12, 15, 22, 23, 24, 27, 32, 35, and 47 didn't fit well with the rest of the items on the respective clusters under subscales and had weak relationships to the underlying constructs.

Table 25*Construct Reliability and Validity of SACQ*

HOC	LOC	Items	Construct Convergent Validity		Construct Reliability		
			Factor Loading	AVE	Cronbach α	CR (ρ_A)	CR (ρ_C)
Academic Adjustment	Motivation	SACQ_05	0.75	0.342	0.563	0.686	0.713
		SACQ_19	0.778				
		SACQ_23	0.088				
		SACQ_32	0.287				
		SACQ_50	0.749				
		SACQ_58	0.483				
	Application	SACQ_03	0.677	0.392	0.489	0.508	0.714
		SACQ_17	0.686				
		SACQ_29	0.681				
		SACQ_44	0.419				
	Performance	SACQ_06	0.513	0.324	0.725	0.745	0.804
		SACQ_10	0.672				
		SACQ_13	0.596				
		SACQ_21	0.737				
		SACQ_25	0.587				
		SACQ_27	0.36				
		SACQ_39	0.655				
		SACQ_41	0.363				
		SACQ_52	0.513				
	Academic Environment	SACQ_36	0.762	0.534	0.782	0.79	0.851
		SACQ_43	0.771				
		SACQ_54	0.694				
		SACQ_62	0.675				
		SACQ_66	0.748				
Social Adjustment	General	SACQ_01	0.746	0.527	0.847	0.858	0.885
		SACQ_08	0.551				
		SACQ_09	0.854				
		SACQ_18	0.677				
		SACQ_37	0.762				
		SACQ_46	0.689				
		SACQ_65	0.767				
	Other People	SACQ_04	0.746	0.382	0.722	0.755	0.806
		SACQ_14	0.535				

HOC	LOC	Items	Construct Convergent Validity		Construct Reliability		
			Factor Loading	AVE	Cronbach α	CR (ρ_A)	CR (ρ_C)
Personal-Emotional Adjustment		SACQ_33	0.754				
		SACQ_42	0.67				
		SACQ_48	0.483				
		SACQ_56	0.429				
		SACQ_63	0.628				
	Nostalgia	SACQ_22	0.174				
		SACQ_51	0.8	0.419	0.284	0.396	0.634
		SACQ_57	0.765				
	Social Environment	SACQ_16	0.635				
		SACQ_26	0.79	0.547	0.581	0.597	0.782
		SACQ_30	0.782				
	Psychological	SACQ_02	0.569				
		SACQ_07	0.722				
		SACQ_12	0.347				
		SACQ_20	0.693				
		SACQ_31	0.569	0.326	0.726	0.764	0.803
		SACQ_38	0.569				
		SACQ_45	0.728				
		SACQ_49	0.413				
		SACQ_64	0.371				
	Physical	SACQ_11	0.639				
		SACQ_24	0.304				
		SACQ_28	0.542	0.319	0.544	0.599	0.722
		SACQ_35	0.381				
		SACQ_40	0.727				
		SACQ_55	0.667				
Institutional Adjustment	General	SACQ_15	0.735				
		SACQ_60	0.729	0.52	0.558	0.55	0.764
		SACQ_61	0.698				
	This University	SACQ_16	0.795				
		SACQ_34	0.731	0.443	0.574	0.618	0.755
		SACQ_47	0.502				
Other		SACQ_59	0.594				
		SACQ_53	0.849	0.716	0.604	0.604	0.835
		SACQ_67	0.844				

In Table 25, for the LOC named Motivation under Academic Adjustment subscale, composite reliability-CR (ρ_A & ρ_C) values are about to a satisfactory level, but Cronbach's alpha (α) value is not at a satisfactory level (.563). The results revealed that the items utilized to characterize the LOC (motivation) had moderate internal consistency reliability. The outer loading values for the three indicators (SACQ_23, SACQ_32, and SACQ_58) did not exceed the level of .708. Among them, one indicator (SACQ_58) passed the level of .40, but two indicators (SACQ_23 and SACQ_32) had low loadings (less than .40), and thus, these indicators (SACQ_23 and SACQ_32) needed to be deleted from the scale. The AVE value for the LOC (motivation) did not pass (.342) the acceptance level of .50. In Table 25, SACQ_23 has the lowest outer loading value among the indicators selected for removal in the initial round of analysis.

After removing SACQ_23, the model was reanalyzed to determine the values of outer loading, construct reliability, and the new AVE following realignment. The item removal process continued until the AVE value for the construct (motivation) exceeded the .50 level. Table 26 presents the convergent reliability and validity values after the elimination of the third indicator (SACQ_58). The AVE value for the construct (motivation) rose to .623 upon removal of SACQ_58. Following adjustment, the values of outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE for the construct (motivation) and indicators involved eventually approached an acceptable and satisfactory level. Thus, the construct reliability and construct convergent validity of the LOC (motivation) under academic adjustment subscale is also established through the removal of three items, namely, SACQ_23, SACQ_32, and SACQ_58.

For the LOC named Application under Academic Adjustment subscale, composite reliability-CR (ρ_A & ρ_C) values are about to a satisfactory level, but Cronbach's alpha (α) value is not at a satisfactory level (.489). The results revealed that the items utilized to characterize the LOC (application) had moderate internal consistency reliability. The outer loading values for the four indicators (SACQ_03, SACQ_17, SACQ_29, and SACQ_44) did not exceed the level of .708; but all of them passed the level of .40. The AVE value for the LOC (application) did not pass (.392) the acceptance level of .50. In Table 25, among the indicators that were ultimately determined to be eliminated for the first round of analysis, SACQ_44 had the lowest outer loading value.

After removing SACQ_44, the model was reevaluated to determine values of outer loading, construct reliability, and the new AVE following realignment. Here, the item removal procedure was continued until the AVE value for the construct (application) dropped below the .50 level and then rose above it. Table 26 shows the convergent reliability and validity values following the elimination of the second indicator (SACQ_03). The AVE value for the construct (application) rose to .627 upon the elimination of SACQ_03. The outer loading values, composite reliability-CR (ρ_C), and AVE value for the construct (application) and indicators involved ultimately approached an acceptable and satisfactory level following modification except for the values of Cronbach's alpha (α), composite reliability-CR (ρ_A). Thus, the construct reliability and construct convergent validity of the LOC (application) under the academic adjustment subscale is also established through the removal of two items, namely, SACQ_03 and SACQ_44.

For the LOC named Performance under the Academic Adjustment subscale, Cronbach's alpha (α) and composite reliability-CR (ρ_A & ρ_C) values are at a

satisfactory level (see Table 25). The results revealed that the items utilized to characterize the LOC (performance) had adequate internal consistency reliability. The outer loading values for the eight indicators except for an indicator (SACQ_21) did not exceed the level of .708. Among them, two indicators (SACQ_27 and SACQ_41) had low loadings (less than .40), and thus, these indicators (SACQ_27 and SACQ_41) needed to be deleted from the scale. The AVE value for the LOC (performance) did not pass (.324) the acceptance level of .50. In Table 25, SACQ_27 had the lowest outer loading value among the indicators, which was determined to be eliminated for the initial analysis.

The model was reanalyzed to determine values of outer loading, construct reliability, and the new AVE following realignment, following the removal of SACQ_27. Here, the SACQ_41, SACQ_06, SACQ_52, and SACQ_25 item removal procedures were repeated in that order until the AVE value for the construct (performance) below the .50 level rose and above that level. Table 26 displays the validity and convergent reliability values after the elimination of the fifth indicator (SACQ_25). The construct's (performance) AVE value rose to .515 upon the removal of SACQ_25. After adjustment, the values of the construct (performance) and indicators involved, as well as Cronbach's alpha (α), AVE, and composite reliability-CR (ρ_A & ρ_C), ultimately attained an acceptable and adequate level. Therefore, the construct reliability and construct convergent validity of the LOC (performance) under academic adjustment subscale is also established through the removal of five items, namely, SACQ_06, SACQ_25, SACQ_27, SACQ_41, and SACQ_52.

Table 25 shows that the items utilized to characterize the LOC (academic environment) under the Academic Adjustment subscale had adequate internal consistency reliability. The outer loading value for the two indicators (SACQ_54 and

SACQ_62) did not exceed the level of .708. The AVE value for the LOC (academic environment) passed the acceptance level of .50. For the construct (expressing opinions) and indicators involved, the values of outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE obtained an acceptable and satisfactory level. Thus, the construct reliability and construct convergent validity of the LOC (academic environment) are established without the deletion of any items.

For the LOC named General under the Social Adjustment subscale, Cronbach's alpha (α) and composite reliability-CR (ρ_A & ρ_C) values are at a satisfactory level (see Table 25). The outer loading value for the two indicators (SACQ_08, SACQ_18 and SACQ_46) did not exceed the level of .708 but the AVE value for the LOC (general) passed the acceptance level of .50. The outer loading values, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE values for the construct (general) and indicators involved approached an acceptable and satisfactory level. Thus, the construct reliability and construct convergent validity of the LOC (general) are established without the deletion of any items.

For the LOC named Other People under the Social Adjustment subscale, Cronbach's alpha (α) and composite reliability-CR (ρ_A & ρ_C) values are at a satisfactory level (see Table 25). The results revealed that the items utilized to characterize the LOC (other people) had adequate internal consistency reliability. The outer loading values for the five indicators did not exceed the level of .708. The AVE value for the LOC (other people) did not pass (.382) the acceptance level of .50. In Table 25, SACQ_56 had the lowest outer loading value among indicators, which was determined to be removed for the first-round analysis.

After removing SACQ_27, the model was reevaluated to determine outer loading, construct reliability, and the new AVE values following realignment. The

item removal process continued (SACQ_48 and SACQ_14 in that order) here until the AVE value for the construct (other people) exceeded the .50 level. Table 26 displays the convergent reliability and validity values following the removal of the third indicator (SACQ_14). Following the removal of SACQ_14, the AVE value for the construct (other people) increased to .537. The values of outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE for the construct (other people) and indicators involved finally obtained to an acceptable and satisfactory level following adjustment. Thus, the construct reliability and construct convergent validity of the LOC (other people) under social adjustment subscale is also established through the removal of three items, namely, SACQ_14, SACQ_48, and SACQ_56.

For the LOC named Nostalgia under Social Adjustment subscale, Cronbach's alpha (α) and composite reliability-CR (ρ_A & ρ_C) values are not at a satisfactory level (see Table 25). The outer loading value for an indicator (SACQ_22) did not exceed the level of .708. This indicator had low loadings (less than .40), and thus, it needed to be deleted from the scale. The AVE value for the LOC (nostalgia) did not pass (.419) the acceptance level of .50. Following SACQ_22's removal, the model underwent another analysis to determine values for construct reliability, outer loading, and the new AVE following realignment. The convergent reliability and validity values following the elimination of the third indicator (SACQ_22) are displayed in Table 26. The AVE value for the construct (nostalgia) rose to .620 upon removal of SACQ_22. Except for Cronbach's alpha (α) and composite reliability-CR (ρ_A), the values of outer loading, composite reliability-CR (ρ_C), and AVE for the construct (nostalgia) and indicators included after adjustment eventually achieved an acceptable and sufficient level.

Thus, the construct reliability and construct convergent validity of the LOC (nostalgia) under the social adjustment subscale is also moderately established through the removal of an item (SACQ_22).

Table 26

Construct Reliability and Validity of SACQ After Adjustment

HOC	LOC	Items	Construct Convergent Validity		Construct Reliability		
			Factor Loading	AVE	Cronbach α	CR (ρ_A)	CR (ρ_C)
Academic Adjustment	Motivation	SACQ_05	.797				
		SACQ_19	.816	.623	.698	.696	.832
		SACQ_50	.753				
	Application	SACQ_17	.734				
		SACQ_29	.846	.627	.412	.427	.770
	Performance	SACQ_10	.661				
		SACQ_13	.706				
		SACQ_21	.800	.515	.687	.694	.809
		SACQ_39	.697				
	Academic Environment	SACQ_36	.764				
		SACQ_43	.771				
		SACQ_54	.698	.534	.782	.789	.851
		SACQ_62	.671				
		SACQ_66	.746				
Social Adjustment	General	SACQ_01	.747				
		SACQ_08	.551				
		SACQ_09	.855				
		SACQ_18	.676	.527	.847	.858	.885
		SACQ_37	.762				
		SACQ_46	.688				
		SACQ_65	.767				
	Other People	SACQ_04	.813				
		SACQ_33	.791	.537	.708	.723	.821
		SACQ_42	.650				
		SACQ_63	.664				
	Nostalgia	SACQ_51	.789				
		SACQ_57	.786	.620	.386	.386	.765
HOC	LOC	Items	Construct Convergent Validity		Construct Reliability		

			Factor Loading	AVE	Cronbach α	CR (ρ_A)	CR (ρ_C)
	Social Environment	SACQ_16	.628	.546	.581	.590	.781
		SACQ_26	.795				
		SACQ_30	.783				
Personal-Emotional Adjustment	Psychological	SACQ_07	.768	.548	.724	.728	.828
		SACQ_20	.738				
		SACQ_38	.681				
		SACQ_45	.770				
	Physical	SACQ_11	.718	.537	.569	.569	.777
		SACQ_40	.761				
		SACQ_55	.720				
Institutional Adjustment	General	SACQ_15	.906	.593	.347	.432	.737
		SACQ_60	.603				
	This University	SACQ_16	.826	.540	.576	.621	.775
		SACQ_34	.771				
		SACQ_59	.585				
Other Factor		SACQ_53	.854	.716	.604	.605	.835
		SACQ_67	.839				

For the LOC named Social Environment under Social Adjustment subscale, composite reliability-CR (ρ_C) value is at a satisfactory level, but Cronbach's alpha (α) and composite reliability-CR (ρ_A) values are not at a satisfactory level (see Table 25). The outer loading value for an indicator (SACQ_16) did not exceed the level of .708 but the AVE value for the LOC (social environment) passed the acceptance level of .50. The outer loading values, composite reliability-CR (ρ_C), and AVE for the construct (social environment) and indicators involved achieved an acceptable and satisfactory level. Thus, the construct reliability and construct convergent validity of the LOC (social environment) are moderately established without the deletion of any items.

For the LOC named Psychological Adjustment under Personal-Emotional Adjustment subscale, Cronbach's alpha (α) and composite reliability-CR (ρ_A & ρ_C) values are at a satisfactory level (see Table 25). The results revealed that the items utilized to characterize the LOC (psychological adjustment) had adequate internal

consistency reliability. The outer loading values for the seven indicators did not exceed the level of .708. Among them, two indicators (SACQ_12 and SACQ_64) had low loadings (less than .40), and thus, these indicators (SACQ_12 and SACQ_64) needed to be deleted from the scale. The AVE value for the LOC (psychological adjustment) did not pass (.324) the acceptance level of .50. In Table 25, SACQ_12 has the lowest outer loading value among the indicators which has been selected to be removed for the first-round analysis.

Following SACQ_12's removal, the model was reanalyzed to determine the new AVE, build reliability, and outer loading values. Here, the SACQ_64, SACQ_49, SACQ_02, and SACQ_31 items were removed one at a time until the AVE value for the construct (psychological adjustment) rose to and beyond the .50 level. The convergent reliability and validity values following the elimination of the fifth indicator (SACQ_31) are displayed in Table 26. The AVE score for the construct (psychological adjustment) rose to .548 upon the elimination of SACQ_31. After adjustment, the values of the indicators involved (psychological adjustment) and Cronbach's alpha (α), AVE, composite reliability-CR (ρ_A & ρ_C), and outer loading eventually attained a reasonable and acceptable level. Thus, the construct reliability and construct convergent validity of the LOC (psychological adjustment) under personal-emotional adjustment subscale is also established through the removal of five items, namely, SACQ_02, SACQ_12, SACQ_31, SACQ_49, and SACQ_64.

For the LOC named Physical Adjustment under Personal-Emotional Adjustment subscale, the composite reliability-CR (ρ_C) value is at a satisfactory level, but Cronbach's alpha (α) and composite reliability-CR (ρ_A) values are not at a satisfactory level (see Table 25). The outer loading values for the five indicators did not exceed the level of .708. Among them, two indicators (SACQ_24 and SACQ_35)

had low loadings (less than .40), and thus, these indicators (SACQ_24 and SACQ_35) needed to be deleted from the scale. The AVE value for the LOC (physical adjustment) did not pass (.319) the acceptance level of .50. In Table 25, SACQ_24 had the lowest outer loading value among the indicators, which was selected to be removed for the first-round analysis.

The model was reanalyzed to determine values of outer loading, construct reliability, and the new AVE following realignment, following the removal of SACQ_24. Here, the item removal procedure (SACQ_35 and SACQ_28 in this order) was repeated until the construct's (physical adjustment) AVE value fell below the .50 level, grew, and surpassed that level. The convergent reliability and validity values following the elimination of the third indicator (SACQ_28) are displayed in Table 26. The construct's AVE value (physical adjustment) increased to .537 upon the elimination of SACQ_28. After adjustment, the values of outer loading, composite reliability-CR (ρ_C), and AVE for the construct (physical adjustment) all attained the adequate and acceptable level. Thus, the construct reliability and construct convergent validity of the LOC (physical adjustment) under the personal-emotional adjustment subscale is moderately established through the removal of three items, namely, SACQ_24, SACQ_28, and SACQ_35.

For the LOC named General under Institutional Adjustment subscale, composite reliability-CR (ρ_C) value is at a satisfactory level, but Cronbach's alpha (α) and composite reliability-CR (ρ_A) values are not at a satisfactory level (see Table 25). The outer loading value for an indicator (SACQ_61) did not exceed the level of .708 but the AVE value for the LOC (general) passed the acceptance level of .50. following the removal of SACQ_61, the AVE value for the construct (general) increased to .593. The values of outer loading, composite reliability-CR (ρ_C), and

AVE for the construct (general) and indicators involved attained an acceptable and satisfactory level. Thus, the construct reliability and construct convergent validity of the LOC (general) are moderately established through the removal of an item, SACQ_61.

For the LOC named This University under the Institutional Adjustment subscale, the composite reliability-CR (ρ_C) value is at a satisfactory level, but Cronbach's alpha (α) and composite reliability-CR (ρ_A) values are not at a satisfactory level (see Table 25). The outer loading value for an indicator (SACQ_47) did not exceed the level of .708 and the AVE value for the LOC (This University) did not pass the acceptance level of .50. When SACQ_47 removal occurred, the AVE value for the construct (This University) increased to .540. The values of outer loading, composite reliability-CR (ρ_C), and AVE for the construct (This University) and concerned indicators approached an acceptable and satisfactory level. Thus, the construct reliability and construct convergent validity of the LOC (This University) are moderately established through the removal of an item, SACQ_47.

For the LOC named other factor subscale, the composite reliability-CR (ρ_C) value is at a satisfactory level, but Cronbach's alpha (α) and composite reliability-CR (ρ_A) values are not at a satisfactory level (see Table 25). The outer loading value for an indicator exceeded the level of .708 and the AVE value for the LOC (other factor) did not pass the acceptance level of .50. The values of outer loading, composite reliability-CR (ρ_C), and AVE for the construct (Other Factor) and indicators concerned achieved an acceptable and satisfactory level. Thus, the construct reliability and construct convergent validity of the LOC (Other Factor) are moderately established without any deletion of the items.

2.4.5.5 Discriminant Validity of LOCs. The first criterion for the measurement of discriminant validity is heterotrait-monotrait (HTMT) ratio, i.e., the average of the correlations of indicators between constructs as well as within the same construct (Henseler et al., 2015). Table 27 shows the discriminant validity of lower-order constructs (LOC). The majority of the HTMT values of the measurement model were below the conservative threshold level of acceptance (.90), but some values exceeded the acceptance level. In essence, this result indicated that the constructs are empirically different from the other constructs included in the measurement model.

The Fornell and Larcker criterion, which states that the square root of AVE values along the diagonal of the Fornell and Larcker scale should be greater than the correlations of all other constructs below the diagonal, is the second criterion for measuring discriminant validity (Fornell & Larcker, 1981). Table 28 shows values along the diagonal that are higher than the correlations between each of the corresponding constructs. Cross-loadings, or the indicator's outer loadings on one construct having a higher value than the cross-loadings with other constructs, are the third criterion for measuring discriminant validity (Hair et al., 2017). Table 29 shows the cross-loadings for each indicator which reflected on 29 different constructs (LOC).

Table 27

Discriminant Validity of LOCs: Heterotrait-Monotrait (HTMT) Ratio

LOCs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
01.Fear of Negative Evaluation																													
02.Self-Esteem	.554																												
03.IIS_D_Criticism	.496	.293																											
04.IIS_D_Opinions	.626	.357	.830																										
05.IIS_D_Compliments	.199	.143	.248	.369																									
06.IIS_D_Contacts	.633	.308	.892	.949	.344																								
07.IIS_D_Self-Evaluation	.364	.222	.499	.621	.647	.470																							
08.IIS_D_Self-Assertion	.427	.213	.956	.717	.308	.826	.438																						
09.IIS_D_Expressing Feelings & Desires	.462	.310	.455	.891	.641	.775	.792	.431																					
10.IIS_F_Criticism	.400	.257	.584	.381	.186	.535	.256	.426	.259																				
11.IIS_F_Opinions	.289	.210	.395	.379	.189	.501	.157	.351	.242	.886																			
12.IIS_F_Compliments	.200	.137	.158	.151	.263	.184	.185	.141	.175	.369	.549																		
13.IIS_F_Contacts	.346	.182	.488	.415	.247	.778	.220	.443	.285	.805	.867	.554																	
14.IIS_F_Self-Evaluation	.203	.151	.428	.241	.172	.296	.217	.276	.120	.685	.695	.765	.645																
15.IIS_F_Self-Assertion	.326	.200	.456	.352	.206	.455	.289	.644	.274	.909	.843	.357	.791	.624															
16.IIS_F_Expressing Feelings & Desires	.122	.083	.265	.207	.193	.382	.196	.221	.456	.611	.834	.726	.775	.825	.576														
17.SACQ_AA_Motivation	.311	.497	.114	.181	.083	.152	.135	.137	.203	.085	.125	.153	.092	.369	.155	.272													
18.SACQ_AA_Application	.452	.714	.310	.335	.241	.349	.406	.294	.369	.214	.274	.153	.292	.158	.250	.205	.494												
19.SACQ_AA_Performance	.417	.706	.244	.253	.209	.236	.336	.173	.295	.184	.255	.148	.164	.145	.233	.150	.455	1.046											
20.SACQ_AA_Academic Environment	.266	.363	.184	.207	.136	.235	.165	.176	.267	.141	.284	.141	.189	.209	.211	.147	.715	.592	.582										
21.SACQ_SA_General	.534	.499	.310	.388	.119	.425	.259	.364	.410	.146	.191	.168	.145	.179	.186	.179	.690	.393	.339	.601									
22.SACQ_SA_Other People	.518	.514	.367	.495	.181	.480	.339	.391	.458	.204	.199	.127	.123	.178	.208	.158	.650	.362	.376	.650	.985								
23.SACQ_SA_Nostalgia	.576	.541	.231	.454	.311	.274	.474	.151	.469	.153	.230	.167	.128	.177	.312	.253	.627	.612	.574	.611	.779	.964							
24.SACQ_SA_Social Environment	.267	.420	.166	.197	.152	.229	.187	.246	.229	.163	.167	.220	.184	.199	.264	.223	.725	.295	.284	.623	.846	.757	.993						
25.SACQ_PEA_Psychological	.616	.763	.292	.327	.142	.404	.129	.156	.311	.305	.196	.157	.191	.122	.188	.122	.239	.637	.769	.266	.275	.339	.478	.279					
26.SACQ_PEA_Physical	.403	.678	.281	.306	.177	.347	.231	.332	.354	.282	.131	.206	.164	.178	.283	.151	.302	.376	.523	.272	.288	.365	.372	.424	.871				
27.SACQ_IA_General	.216	.310	.246	.185	.334	.245	.141	.229	.315	.193	.196	.223	.144	.318	.261	.350	.759	.572	.300	.645	.529	.582	.587	1.111	.323	.512			
28.SACQ_IA_This University	.215	.337	.121	.156	.128	.214	.171	.118	.214	.178	.223	.133	.220	.214	.258	.178	.495	.316	.311	.572	.376	.426	.509	.900	.328	.397	1.407		
29.SACQ_Other Factor	.597	.645	.373	.455	.133	.440	.243	.330	.353	.209	.225	.133	.138	.175	.177	.093	.868	.501	.419	.708	.937	.900	.766	.819	.457	.486	.650	.363	

Table 28

Discriminant Validity of LOCs: Fornell-Larcker Criterion

LOCs	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
01.Fear of Negative Evaluation	.718																												
02.Self-Esteem	.503	.727																											
03.IIS_D_Criticism	.417	.245	.764																										
04.IIS_D_Opinions	.510	.290	.671	.726																									
05.IIS_D_Compliments	.190	.107	.073	.311	.719																								
06.IIS_D_Contacts	.493	.244	.712	.719	.252	.758																							
07.IIS_D_Self-Evaluation	.301	.187	.416	.500	.450	.390	.730																						
08.IIS_D_Self-Assertion	.342	.163	.736	.544	.011	.622	.361	.802																					
09.IIS_D_Expressing Feelings & Desires	.314	.178	.324	.616	.441	.503	.509	.286	.729																				
10.IIS_F_Criticism	.339	.217	.469	.283	.047	.406	.206	.321	.152	.747																			
11.IIS_F_Opinions	.242	.156	.309	.288	.095	.374	.099	.259	.150	.703	.719																		
12.IIS_F_Compliments	.049	-.016	.099	.023	.210	.102	-.088	-.035	-.047	.308	.420	.722																	
13.IIS_F_Contacts	.291	.101	.388	.325	.186	.594	.169	.334	.193	.635	.656	.405	.764																
14.IIS_F_Self-Evaluation	.109	-.022	.301	.147	-.027	.202	.128	.182	-.010	.530	.528	.542	.488	.710															
15.IIS_F_Self-Assertion	.252	.163	.338	.254	.089	.333	.193	.427	.162	.682	.614	.257	.587	.433	.770														
16.IIS_F_Expressing Feelings & Desires	.033	-.006	.168	.131	.096	.246	.011	.102	.251	.433	.562	.479	.528	.519	.373	.720													
17.SACQ_AA_Motivation	.244	.386	.070	.131	.063	.086	.066	.098	.116	-.021	.005	-.071	.006	-.208	.023	-.142	.789												
18.SACQ_AA_Application	.268	.445	.177	.195	.140	.204	.241	.158	.186	.110	.144	.044	.159	.018	.097	.014	.274	.792											
19.SACQ_AA_Performance	.323	.536	.167	.171	.169	.151	.230	.104	.154	.120	.173	.087	.084	-.024	.147	-.009	.321	.548	.718										
20.SACQ_AA_Academic Environment	.222	.315	.113	.162	.048	.123	.063	.106	.134	.075	.195	-.008	.085	-.068	.157	.024	.540	.355	.460	.731									
21.SACQ_SA_General	.452	.437	.260	.314	.079	.330	.205	.285	.268	.106	.133	-.116	.066	-.104	.115	-.100	.540	.234	.268	.506	.726								
22.SACQ_SA_Other People	.396	.400	.279	.361	.115	.332	.251	.279	.258	.144	.142	-.072	.036	-.078	.130	-.074	.459	.199	.263	.480	.769	.733							
23.SACQ_SA_Nostalgia	.334	.316	.126	.243	.113	.145	.228	.079	.211	.054	.052	-.045	-.038	-.022	.068	-.064	.333	.255	.298	.338	.444	.498	.787						
24.SACQ_SA_Social Environment	.169	.276	.084	.123	.041	.136	.102	.151	.119	.012	.062	-.116	.003	-.072	.019	-.026	.462	.115	.177	.411	.593	.492	.484	.739					
25.SACQ_PEA_Psychological	.503	.604	.215	.247	.081	.290	.104	.113	.173	.233	.141	.039	.137	.004	.106	.051	.174	.365	.536	.195	.215	.242	.241	.158	.740				
26.SACQ_PEA_Physical	.285	.472	.193	.197	.098	.224	.096	.183	.113	.189	.042	-.025	.088	-.083	.142	.000	.190	.174	.320	.114	.179	.198	.089	.229	.561	.733			
27.SACQ_IA_General	.040	.188	-.115	-.062	.100	-.037	.048	-.054	.043	.025	-.001	-.065	.021	-.110	.119	-.012	.420	.027	.116	.378	.306	.321	.213	.538	.137	.234	.770		
28.SACQ_IA_This University	.141	.246	-.006	.013	.072	.086	.082	.045	.095	.096	.139	-.034	.094	-.097	.174	.004	.344	.113	.199	.397	.282	.286	.243	.511	.208	.237	.714	.735	
29.SACQ_Other Factor	.428	.466	.261	.311	.099	.289	.163	.218	.198	.143	.141	-.074	.082	-.092	.103	.012	.564	.268	.277	.492	.674	.596	.369	.491	.307	.284	.315	.232	.846

Table 29

Discriminant Validity of LOCs: Cross-Loadings

Items	01.Fear of Negati ve Evalua tion	02.Self- Esteem	03.IIS_ D_Criti cism	04.IIS_ D_Opi nions	05.IIS_ D_Co mplime nts	06.IIS_ D_Con tacts	07.IIS_ D_Self- Evalua tion	08.IIS_ D_Self- Assert ion	09.IIS_ D_Exp ressin g Feelin gs & Desire	10.IIS_ F_Criti cism	11.IIS_ F_Opi nions	12.IIS_ F_Com plimen ts	13.IIS_ F_Con tacts	14.IIS_ F_Self- Evalua tion	15.IIS_ F_Self- Assert ion	16.IIS_ F_Expr essing Feelin gs & Desire s	17.SA CQ_A A_Mo tivatio n	18.SA CQ_A A_Ap plicati on	19.SA CQ_A A_Perf orman ce	20.SA CQ_A A_Ac ademic Enviro nment	21.SA CQ_S A_Gen eral	22.SA CQ_S A_Oth er People	23.SA CQ_S A_No stalgia	24.SA CQ_S A_Soc ial Enviro nment	25.SA CQ_PE A_Psy cholog ical	26.SA CQ_PE A_Phy sical	27.SA CQ_IA _Gener al	28.SA CQ_IA _This Univer sity	29.SA CQ_Ot her Factor
BFNES_01	.772	.388	.296	.288	.074	.372	.207	.315	.148	.277	.143	.028	.235	.084	.229	.013	.194	.241	.310	.130	.347	.253	.312	.106	.486	.218	-.028	.045	.264
BFNES_03	.792	.436	.279	.296	.089	.335	.152	.231	.192	.250	.186	.058	.202	.089	.140	.086	.239	.206	.230	.171	.357	.324	.247	.130	.404	.276	-.016	.109	.391
BFNES_05	.774	.518	.347	.414	.140	.385	.312	.269	.248	.378	.263	.043	.298	.127	.310	.074	.153	.270	.334	.117	.273	.226	.171	.084	.508	.271	.017	.042	.288
BFNES_06	.811	.397	.379	.395	.156	.403	.243	.298	.233	.251	.157	.012	.207	.098	.192	.007	.185	.144	.231	.167	.349	.287	.223	.193	.393	.271	.089	.174	.324
BFNES_07	.447	.228	.232	.300	.127	.249	.072	.131	.164	.127	.059	.115	.142	.084	.056	.109	.155	.109	.086	.126	.233	.263	.113	.147	.300	.071	.024	.044	.289
BFNES_08	.756	.328	.269	.463	.215	.412	.268	.211	.336	.247	.245	.100	.288	.155	.239	.051	.166	.260	.301	.215	.352	.330	.329	.113	.310	.167	.036	.095	.269
BFNES_09	.709	.287	.219	.370	.170	.336	.151	.199	.206	.268	.231	-.001	.239	.029	.220	-.044	.196	.160	.197	.237	.410	.337	.241	.145	.258	.160	.074	.173	.330
BFNES_10	.479	.222	.286	.379	.179	.358	.173	.216	.314	.100	.037	.005	.111	-.031	-.009	.051	.212	.036	.051	.161	.258	.310	.228	.207	.207	.225	.018	.087	.367
BFNES_11	.823	.365	.321	.406	.160	.349	.311	.270	.229	.229	.172	.000	.168	.032	.181	-.028	.075	.170	.262	.152	.326	.273	.283	.053	.350	.169	-.012	.060	.321
BFNES_12	.698	.338	.351	.374	.086	.328	.225	.285	.211	.225	.173	.004	.151	.081	.156	-.076	.184	.259	.221	.131	.326	.275	.242	.069	.311	.164	.095	.185	.257
SES_03	.220	.627	.059	.119	-.029	.029	.041	.062	.063	.006	.070	-.046	.017	.006	.011	.030	.180	.150	.312	.147	.173	.185	.131	.132	.310	.203	.101	.177	.253
SES_05	.309	.648	.230	.238	.133	.186	.184	.112	.214	.119	.067	-.001	.076	.001	.075	.021	.277	.358	.369	.182	.255	.302	.281	.294	.382	.322	.091	.189	.334
SES_06	.366	.751	.128	.210	.042	.124	.090	.017	.129	.162	.062	.005	.027	-.037	.124	-.013	.274	.325	.360	.299	.374	.335	.263	.225	.427	.331	.161	.148	.355
SES_07	.540	.775	.269	.229	.144	.274	.176	.187	.124	.253	.185	.042	.140	-.004	.201	-.008	.312	.344	.465	.292	.438	.320	.283	.185	.514	.382	.124	.149	.428
SES_09	.348	.771	.151	.225	.049	.197	.118	.133	.124	.193	.160	-.017	.094	-.018	.183	.005	.256	.281	.355	.136	.239	.220	.127	.130	.476	.432	.165	.220	.260
SES_10	.320	.776	.177	.223	.080	.189	.171	.168	.116	.140	.106	-.082	.053	-.036	.064	-.040	.351	.431	.444	.264	.340	.345	.249	.229	.480	.351	.172	.214	.357
IIS_D_08	.300	.121	.770	.536	-.050	.551	.238	.676	.245	.378	.214	.054	.264	.184	.279	.039	.061	.209	.120	.129	.184	.139	.084	.012	.111	.082	-.174	-.068	.187
IIS_D_21	.288	.133	.798	.549	.033	.575	.402	.583	.275	.316	.203	.007	.282	.232	.227	.169	.058	.124	.025	.067	.239	.230	.087	.116	.071	.175	-.070	-.024	.224
IIS_D_25	.337	.272	.834	.505	.056	.632	.342	.589	.200	.398	.226	.063	.361	.242	.306	.113	.019	.166	.182	.011	.198	.210	.060	.044	.223	.217	-.122	-.019	.169
IIS_D_31	.359	.206	.709	.431	.098	.463	.261	.474	.269	.372	.295	.174	.366	.298	.300	.263	.126	.152	.084	.117	.170	.148	.151	.080	.227	.127	-.030	.054	.217
IIS_D_33	.315	.208	.699	.535	.156	.483	.335	.475	.255	.329	.256	.098	.214	.202	.181	.072	.013	.024	.230	.116	.198	.338	.110	.069	.203	.128	-.035	.046	.204
IIS_D_14	.357	.178	.371	.738	.266	.493	.391	.308	.485	.121	.204	.044	.190	.017	.131	.056	.166	.151	.138	.148	.240	.319	.172	.005	.119	.093	-.087	-.060	.250
IIS_D_16	.411	.199	.401	.746	.287	.507	.371	.343	.490	.110	.167	-.004	.214	.080	.130	.082	.096	.116	.119	.083	.239	.256	.222	.186	.189	.131	-.021	.055	.195
IIS_D_20	.381	.212	.618	.773	.127	.623	.334	.550	.465	.232	.181	-.081	.241	.092	.228	.053	.072	.167	.074	.090	.197	.200	.076	.036	.231	.237	-.071	-.024	.189
IIS_D_32	.295	.216	.404	.646	.321	.401	.447	.332	.338	.269	.229	.042	.267	.115	.241	.132	.075	.092	.106	.105	.177	.305	.205	.139	.168	.110	.045	.104	.192
IIS_D_34	.400	.247	.603	.718	.159	.559	.293	.412	.448	.290	.269	.095	.269	.222	.189	.159	.072	.171	.189	.163	.284	.249	.223	.093	.180	.126	-.076	-.013	.304
IIS_D_09	.008	-.047	-.141	.134	.577	-.042	.358	-.194	.314	-.049	.034	.102	-.013	-.082	-.055	-.042	.025	.140	.093	.062	.015	.094	.145	-.100	-.031	-.087	.078	.007	.078
IIS_D_17	-.016	.038	-.230	.094	.629	-.111	.323	-.281	.286	-.148	-.148	.055	-.177	-.160	-.156	-.131	.030	.048	.099	.048	-.056	.054	.168	-.012	-.003	-.054	.149	.041	-.023
IIS_D_23	.160	.161	-.006	.196	.723	.102	.326	-.094	.307	.059	.073	.231	.139	.009	.105	.127	.038	.113	.107	.100	.116	.160	.173	.099	.138	.088	.127	.076	.103
IIS_D_24	.196	.083	.163	.315	.903	.336	.379	.133	.390	.062	.104	.160	.218	-.012	.102	.096	.065	.109	.162	.001	.057	.059	.029	.035	.055	.124	.051	.061	.074
IIS_D_12	.388	.155	.287	.467	.257	.545	.188	.221	.433	.221	.238	.107	.280	.061	.088	.123	.093	.059	.111	.161	.248	.340	.098	.157	.179	.099	.138	.166	.223
IIS_D_13	.417	.260	.669	.560	.052	.833	.272	.657	.336	.390	.371	.077	.527	.205	.394	.232	.137	.206	.086	.138	.338	.281	.155	.161	.235	.189	-.022	.115	.286
IIS_D_15	.327	.167	.609	.628	.276	.887	.342	.545	.424	.285	.265	.042	.520	.119	.244	.172	.058	.180	.085	.075	.251	.227	.101	.091	.184	.185	-.082	.042	.219
IIS_D_29	.392	.155	.529	.518	.212	.723	.364	.387	.367	.323	.256	.102	.433	.212	.240	.210	-.025	.147	.193	.019	.165	.197	.086	.017	.290	.193	-.095	-.033	.153
IIS_D_04	.114	-.040	-.083	.115	.314	-.003	.445	.043	.210	-.009	.008	-.118	-.031	.065	.002	-.111	-.059	.085	-.061	-.109	.045	.070	.195	.003	.008	-.108	.002	-.033	-.038
IIS_D_26	.267	.172	.492	.483	.350	.418	.868	.399	.440	.244	.083	-.087	.188	.123	.190	.006	.014	.223	.216	.029	.155	.216	.146	.046	.140	.152	-.001	.017	.123
IIS_D_27	.197	.123	.244	.315	.347	.239	.796	.212	.393	.141	.072	-.103	.151	.114	.133	.046	.130	.162	.205	.123	.178	.198	.169	.131	.064	.111	.106	.142	.156

Items	01.Fear of Negati ve Evalua tion	02.Self- Esteem	03.IIS_ D_Criti cism	04.IIS_ D_Opi nions	05.IIS_ D_Co mplime nts	06.IIS_ D_Con tacts	07.IIS_ D_Self- Evalua tion	08.IIS_ D_Self- Assert ion	09.IIS_ D_Exp ressin g Feelin gs & Desire	10.IIS_ F_Criti cism	11.IIS_ F_Opi nions	12.IIS_ F_Com plimen ts	13.IIS_ F_Con tacts	14.IIS_ F_Self- Evalua tion	15.IIS_ F_Self- Assert ion	16.IIS_ F_Expr essing Feelin gs & Desire s	17.SA CQ_A A_Mo tivatio n	18.SA CQ_A A_Ap plicati on	19.SA CQ_A A_Perf orman ce	20.SA CQ_A A_Ac ademic Enviro nment	21.SA CQ_S A_Gen eral	22.SA CQ_S A_Oth er People	23.SA CQ_S A_No stalgia	24.SA CQ_S A_Soc ial Enviro nment	25.SA CQ_PE A_Psy cholog ical	26.SA CQ_PE A_Phy sical	27.SA CQ_IA _Gener al	28.SA CQ_IA _This Univer sity	29.SA CQ_Ot her Factor
IIS_D_28	.259	.182	.290	.411	.364	.298	.740	.256	.396	.118	.092	.001	.086	.066	.155	.010	.060	.194	.175	.053	.182	.201	.222	.097	.041	-.008	.037	.083	.151
IIS_D_06	.282	.144	.506	.469	.025	.498	.290	.807	.283	.226	.186	-.013	.240	.133	.376	.062	.094	.091	.117	.133	.330	.304	.132	.231	.071	.172	-.011	.048	.230
IIS_D_07	.301	.143	.570	.462	.085	.464	.349	.838	.248	.181	.149	-.100	.203	.055	.312	.001	.091	.172	.126	.108	.220	.236	.019	.120	.129	.178	-.016	.055	.158
IIS_D_22	.239	.103	.697	.378	-.089	.537	.225	.759	.154	.371	.292	.033	.364	.256	.342	.188	.052	.114	.006	.011	.134	.130	.040	.010	.069	.087	-.106	.004	.137
IIS_D_11	.168	.055	.223	.365	.229	.398	.343	.245	.727	.137	.110	-.123	.155	-.026	.163	.184	.051	.115	.015	-.013	.162	.175	.088	.087	.074	.073	-.043	.086	.055
IIS_D_19	.260	.099	.346	.604	.398	.447	.394	.272	.836	.113	.096	.014	.159	-.001	.111	.213	.093	.161	.132	.141	.183	.141	.176	.080	.099	.041	.053	.061	.174
IIS_D_35	.275	.296	.080	.324	.339	.215	.402	.065	.607	.082	.141	-.005	.101	.005	.081	.146	.121	.131	.217	.177	.279	.304	.216	.107	.256	.176	.095	.068	.224
IIS_F_08	.209	.163	.372	.284	.057	.307	.221	.301	.214	.689	.443	.183	.419	.292	.544	.270	-.012	.125	.118	.112	.069	.081	-.027	-.009	.158	.135	.000	.066	.084
IIS_F_21	.182	.128	.377	.144	-.092	.283	.080	.292	.014	.803	.620	.295	.535	.527	.587	.416	-.042	.077	.055	.081	.096	.099	.057	.002	.112	.130	.012	.051	.085
IIS_F_25	.288	.160	.327	.143	-.003	.270	.144	.201	.064	.802	.542	.214	.577	.427	.556	.313	-.011	.124	.070	.016	.039	.050	.029	-.042	.241	.166	-.004	.074	.109
IIS_F_31	.269	.213	.314	.302	.139	.331	.192	.183	.211	.725	.509	.185	.424	.351	.411	.291	.016	.094	.111	.028	.075	.128	.077	.057	.231	.148	.000	.021	.110
IIS_F_33	.338	.161	.367	.222	.116	.344	.162	.224	.107	.708	.495	.263	.393	.350	.432	.310	-.024	-.013	.109	.045	.122	.195	.061	.048	.136	.129	.089	.154	.151
IIS_F_14	.189	.093	.270	.284	.174	.324	.115	.226	.113	.388	.684	.344	.522	.311	.408	.357	.053	.177	.159	.223	.170	.197	.099	.068	.116	.012	.027	.067	.171
IIS_F_16	.180	.109	.194	.220	.063	.237	.174	.198	.132	.386	.721	.339	.481	.364	.396	.463	-.003	.147	.207	.184	.068	.055	.022	.081	.137	.018	-.001	.129	.144
IIS_F_20	.147	.133	.271	.223	-.002	.305	.038	.241	.124	.588	.767	.217	.507	.437	.503	.444	.045	.072	.037	.201	.134	.113	.069	.014	.107	.027	-.003	.115	.091
IIS_F_32	.206	.131	.161	.146	.095	.219	-.021	.116	.049	.554	.738	.319	.400	.386	.387	.382	.025	.057	.058	.075	.086	.119	.006	.102	.057	.014	.018	.121	.126
IIS_F_34	.151	.091	.214	.168	.025	.258	.058	.149	.120	.589	.678	.301	.450	.389	.504	.369	-.099	.073	.173	.022	.022	.031	-.008	-.036	.090	.076	-.041	.067	-.017
IIS_F_09	.024	-.069	.099	.046	.152	.022	-.011	.028	-.092	.175	.240	.680	.308	.348	.227	.260	-.106	.033	.037	-.115	-.109	-.066	-.063	-.155	-.015	-.099	-.129	-.089	-.129
IIS_F_17	-.198	-.095	-.029	-.118	.127	-.078	-.069	-.123	-.070	.008	.190	.640	.101	.289	.082	.258	-.030	-.044	.130	.044	-.108	-.026	-.008	.065	-.096	-.097	.096	.064	-.079
IIS_F_23	.043	.028	.104	.050	.118	.131	-.106	-.007	-.013	.272	.345	.763	.341	.447	.165	.443	-.054	.060	.030	.040	-.114	-.104	-.019	-.078	.019	-.027	-.065	-.007	-.019
IIS_F_24	.150	.034	.072	.029	.204	.136	-.063	-.036	.005	.328	.383	.795	.345	.443	.235	.381	-.022	.043	.085	.008	-.029	-.008	-.037	-.114	.131	.088	-.040	-.036	-.020
IIS_F_12	.103	-.055	.169	.100	.151	.278	.052	.069	.081	.324	.394	.318	.570	.180	.208	.392	.005	-.002	.048	.058	.047	.088	-.015	.056	.015	-.041	.091	.082	.114
IIS_F_13	.297	.164	.316	.324	.054	.490	.159	.328	.197	.559	.541	.179	.764	.341	.570	.308	.029	.147	.061	.137	.051	.066	.012	-.018	.134	.093	.022	.157	.091
IIS_F_15	.231	.077	.318	.277	.181	.542	.153	.341	.209	.488	.572	.389	.881	.460	.482	.518	.044	.194	.073	.083	.064	.015	-.011	.051	.089	.076	.025	.098	.055
IIS_F_29	.232	.086	.354	.257	.187	.465	.133	.231	.086	.543	.484	.358	.806	.457	.479	.399	-.060	.108	.071	-.014	.041	-.034	-.100	-.068	.158	.109	-.049	-.040	.012
IIS_F_04	.144	-.109	.187	.110	.025	.045	.069	.130	-.018	.186	.154	.282	.163	.485	.205	.239	-.201	.109	-.046	-.052	-.062	-.102	-.050	-.012	.020	-.168	-.088	-.075	-.071
IIS_F_26	.153	.027	.325	.105	-.061	.177	.106	.135	-.016	.512	.436	.427	.384	.779	.332	.352	-.133	.054	.040	-.015	-.069	-.067	.039	-.091	.077	-.006	-.114	-.061	-.069
IIS_F_27	-.026	-.100	.229	.088	-.064	.184	.100	.179	.016	.349	.307	.430	.372	.787	.255	.388	-.251	-.007	-.106	-.217	-.144	-.107	-.078	-.150	-.085	-.086	-.187	-.196	-.160
IIS_F_28	.065	.060	.121	.123	.038	.135	.084	.092	-.014	.390	.511	.386	.405	.743	.404	.462	-.059	-.057	.015	.060	-.030	.018	-.001	.049	-.005	-.039	.049	.031	.016
IIS_F_06	.167	.056	.264	.233	.031	.261	.188	.494	.148	.457	.413	.134	.358	.281	.740	.271	.015	-.048	.107	.092	.139	.116	.027	.092	-.009	.054	.060	.101	.083
IIS_F_07	.182	.129	.218	.141	.181	.222	.181	.314	.160	.431	.417	.251	.398	.295	.764	.279	-.026	.155	.161	.136	.038	.067	-.007	-.029	.133	.110	.121	.155	.035
IIS_F_22	.226	.176	.293	.212	.010	.283	.095	.223	.082	.654	.567	.206	.568	.407	.806	.308	.054	.104	.081	.132	.092	.115	.118	-.009	.110	.150	.093	.145	.111
IIS_F_11	.008	-.024	.096	.107	.037	.194	.027	.053	.229	.248	.404	.306	.344	.372	.198	.701	-.078	.008	.021	.032	-.020	-.021	-.035	.059	.010	-.063	-.061	.005	.032
IIS_F_19	.042	.025	.203	.130	.103	.204	.037	.142	.189	.439	.513	.433	.526	.457	.390	.858	-.083	.026	.011	.052	-.085	-.069	-.047	-.018	.055	.051	.077	.056	.026
IIS_F_35	.014	-.034	.009	.021	.058	.122	-.076	-.023	.122	.190	.243	.269	.191	.162	.152	.572	-.189	-.018	-.079	-.071	-.131	-.075	-.065	-.130	.043	-.016	-.107	-.105	-.058
SACQ_05	.183	.291	.053	.097	.070	.075	.044	.110	.064	-.041	-.044	-.099	-.029	-.247	-.060	-.154	.797	.176	.231	.400	.386	.354	.190	.338	.117	.152	.357	.281	.443
SACQ_19	.147	.316	.061	.065	-.004	.047	.045	.035	.039	.036	-.005	-.121	.012	-.229	-.018	-.170	.816	.188	.261	.355	.392	.315	.207	.290	.143	.141	.279	.244	.430
SACQ_50	.240	.305	.052	.142	.080	.078	.065	.086	.162	-.041	.054	.039	.029	-.033	.120	-.023	.753	.275	.265	.510	.490	.409	.375	.451	.150	.155	.353	.286	.458
SACQ_17	.093	.217	.160	.128	.042	.127	.139	.145	.081	.048	.150	.015	.084	.005	.060	-.090	.174	.734	.439	.198	.180	.098	.117	.014	.150	-.016	-.152	-.032	.070
SACQ_29	.307	.463	.127	.177	.166	.191	.234	.111	.202	.119	.087	.051	.160	.023	.091	.090	.253	.846	.435	.349	.191	.207	.270	.152	.400	.260	.158	.186	.327
SACQ_10	.241	.363	.109	.163	.163	.140	.241	.060	.115	.084	.153	.018	.123	-.011	.103	.012	.191	.363	.661	.199	.120	.129	.187	-.002	.354	.253	-.007	.037	.150
SACQ_13	.246	.343	.179	.142	.085	.072	.207	.116	.121	.111	.097	.067	-.010	.019	.095	.007	.301	.254	.706	.515	.315	.302	.217	.170	.291	.164	.111	.154	.296

Items	01.Fear of Negati ve Evalua tion	02.Self- Esteem	03.IIS_ D_Criti cism	04.IIS_ D_Opi nions	05.IIS_ D_Co mplime nts	06.IIS_ D_Con tacts	07.IIS_ D_Self- Evalua tion	08.IIS_ D_Self- Assert ion	09.IIS_ D_Exp ressin g Feel ings & Desire	10.IIS_ F_Criti cism	11.IIS_ F_Opi nions	12.IIS_ F_Com plimen ts	13.IIS_ F_Con tacts	14.IIS_ F_Self- Evalua tion	15.IIS_ F_Self- Assert ion	16.IIS_ F_Expr essing Feel ings & Desire s	17.SA CQ_A A_Mo tivatio n	18.SA CQ_A A_Ap plicati on	19.SA CQ_A A_Perf orman ce	20.SA CQ_A A_Ac ademic Enviro nment	21.SA CQ_S A_Gen eral	22.SA CQ_S A_Oth er People	23.SA CQ_S A_No stalgia	24.SA CQ_S A_Soc ial Enviro nment	25.SA CQ_PE A_Psy cholog ical	26.SA CQ_PE A_Phy sical	27.SA CQ_IA _Gener al	28.SA CQ_IA _This Univer sity	29.SA CQ_Ot her Factor
SACQ_21	.159	.413	.052	.047	.144	.049	.134	.033	.094	.023	.099	.100	-.008	-.085	.060	-.080	.191	.524	.800	.326	.130	.114	.251	.132	.423	.239	.093	.154	.150
SACQ_39	.296	.430	.136	.153	.103	.198	.085	.087	.115	.131	.164	.054	.171	.009	.174	.048	.226	.446	.697	.226	.178	.191	.194	.184	.489	.282	.119	.212	.180
SACQ_36	.152	.216	.004	.068	.076	-.030	-.013	.016	.022	.041	.074	-.045	.010	-.077	.133	-.037	.453	.193	.336	.764	.366	.328	.312	.404	.094	.124	.431	.358	.405
SACQ_43	.098	.201	.049	.097	.001	-.002	.068	.026	.068	.004	.110	-.047	-.034	-.035	.102	-.011	.370	.247	.294	.771	.268	.290	.200	.184	.106	.030	.268	.314	.245
SACQ_54	.185	.177	.187	.211	.069	.222	.053	.112	.134	.099	.230	.070	.154	.002	.084	.068	.273	.255	.283	.698	.286	.358	.255	.273	.162	.049	.202	.263	.441
SACQ_62	.099	.135	.102	.032	-.081	.069	.057	.131	.102	.021	.052	-.028	-.012	-.089	.089	-.028	.402	.173	.207	.671	.385	.367	.206	.283	.044	-.015	.259	.267	.249
SACQ_66	.255	.381	.088	.175	.089	.189	.068	.108	.161	.101	.231	.022	.175	-.050	.152	.084	.457	.398	.511	.746	.515	.410	.257	.343	.276	.192	.220	.251	.441
SACQ_01	.258	.326	.209	.201	.041	.209	.151	.217	.159	.094	.089	-.118	.030	-.126	.100	-.095	.398	.173	.157	.368	.747	.591	.276	.350	.125	.059	.151	.134	.456
SACQ_08	.361	.259	.090	.197	.055	.230	.079	.149	.089	.087	.148	-.033	.105	.012	.044	.000	.229	.071	.131	.122	.551	.380	.295	.375	.109	.104	.165	.142	.347
SACQ_09	.353	.378	.274	.294	.079	.267	.173	.255	.201	.063	.089	-.091	.043	-.070	.081	-.062	.488	.174	.209	.426	.855	.664	.414	.533	.179	.146	.270	.220	.592
SACQ_18	.314	.247	.127	.173	.019	.166	.221	.163	.305	.055	.000	-.140	-.078	-.058	-.046	-.100	.326	.158	.119	.280	.676	.607	.391	.391	.116	.111	.202	.202	.457
SACQ_37	.407	.331	.251	.316	.091	.353	.150	.217	.286	.150	.148	-.076	.133	-.066	.183	-.042	.391	.141	.164	.425	.762	.589	.320	.352	.196	.130	.185	.150	.500
SACQ_46	.328	.284	.177	.224	.078	.229	.180	.249	.139	.089	.118	-.055	.055	-.063	.178	-.107	.431	.227	.294	.399	.688	.471	.297	.497	.137	.141	.241	.269	.514
SACQ_65	.293	.381	.161	.181	.038	.224	.081	.188	.165	.012	.098	-.067	.060	-.135	.043	-.093	.441	.228	.277	.493	.767	.566	.256	.502	.219	.214	.324	.308	.526
SACQ_04	.304	.305	.228	.322	.042	.286	.213	.224	.247	.094	.121	-.129	.001	-.066	.008	-.080	.363	.097	.176	.283	.650	.813	.355	.440	.125	.094	.227	.171	.553
SACQ_33	.278	.318	.228	.259	.038	.239	.113	.208	.092	.146	.131	.001	.031	-.033	.112	-.090	.347	.178	.177	.462	.593	.791	.358	.370	.211	.155	.240	.177	.471
SACQ_42	.405	.280	.252	.345	.226	.272	.264	.203	.234	.092	.096	-.037	.089	-.030	.150	-.007	.352	.161	.266	.321	.465	.650	.429	.303	.251	.238	.250	.228	.373
SACQ_63	.184	.269	.106	.130	.057	.173	.158	.184	.190	.090	.063	-.036	-.006	-.102	.131	-.029	.284	.160	.168	.348	.531	.664	.332	.315	.135	.110	.231	.281	.324
SACQ_51	.252	.359	.121	.185	.096	.087	.214	.078	.122	.095	.108	.023	-.009	-.002	.174	.028	.285	.178	.336	.338	.338	.452	.789	.313	.333	.207	.213	.259	.251
SACQ_57	.274	.138	.077	.198	.082	.141	.145	.046	.210	-.010	-.027	-.095	-.052	-.033	-.068	-.128	.238	.223	.133	.193	.361	.332	.786	.449	.045	-.067	.122	.124	.331
SACQ_16	.201	.259	-.028	.062	.123	.090	.099	.024	.139	.111	.109	-.048	.129	-.074	.177	.037	.366	.059	.152	.392	.383	.291	.206	.628	.206	.274	.760	.826	.263
SACQ_26	.051	.141	.063	.120	.017	.082	.041	.115	.066	-.068	-.003	-.074	-.061	-.014	-.063	-.061	.365	.103	.062	.216	.444	.411	.546	.795	.018	.086	.266	.186	.355
SACQ_30	.143	.229	.132	.086	-.027	.131	.093	.179	.073	.009	.047	-.131	-.033	-.079	-.035	-.020	.303	.088	.188	.331	.483	.378	.289	.783	.151	.178	.257	.229	.457
SACQ_07	.355	.451	.084	.113	.076	.149	.050	.015	.041	.187	.063	.080	.077	.006	.117	.017	.087	.172	.332	.105	.190	.186	.213	.089	.768	.473	.175	.144	.215
SACQ_20	.438	.390	.190	.249	.068	.225	.076	.061	.208	.169	.041	-.015	.061	-.012	.024	.025	.122	.276	.376	.205	.114	.162	.213	.126	.738	.397	.049	.060	.224
SACQ_38	.231	.350	.137	.144	.039	.186	.072	.091	.095	.092	.140	.024	.109	-.004	.040	.091	.051	.258	.371	.121	.021	.063	.066	.112	.681	.354	.090	.225	.104
SACQ_45	.453	.583	.227	.225	.054	.299	.111	.168	.172	.230	.174	.022	.157	.019	.124	.024	.245	.376	.506	.148	.291	.288	.206	.141	.770	.430	.087	.193	.349
SACQ_11	.134	.369	.065	.033	.089	.049	-.013	-.019	-.075	.081	-.017	.044	.066	-.078	.046	-.068	.086	.150	.270	.023	.044	.059	.063	.074	.432	.718	.064	.101	.156
SACQ_40	.197	.242	.127	.163	.098	.151	.100	.138	.142	.133	.002	-.097	.032	-.071	.081	.002	.088	.070	.189	-.013	.026	.061	.054	.164	.408	.761	.200	.198	.072
SACQ_55	.298	.428	.234	.238	.027	.295	.125	.285	.182	.202	.108	-.001	.096	-.033	.186	.066	.246	.164	.244	.244	.328	.318	.080	.268	.393	.720	.250	.222	.400
SACQ_15	.093	.199	-.067	-.036	.059	.003	.045	-.006	.006	.070	.048	-.068	.040	-.098	.151	.018	.438	.027	.146	.398	.366	.339	.178	.591	.122	.212	.906	.716	.305
SACQ_60	-.084	.057	-.140	-.074	.121	-.090	.028	-.114	.089	-.075	-.093	-.021	-.027	-.070	-.009	-.061	.146	.012	-.007	.124	.017	.103	.157	.131	.087	.141	.603	.301	.154
SACQ_16	.201	.259	-.028	.062	.123	.090	.099	.024	.139	.111	.109	-.048	.129	-.074	.177	.037	.366	.059	.152	.392	.383	.291	.206	.628	.206	.274	.760	.826	.263
SACQ_34	.039	.208	.065	-.022	-.003	.102	.023	.082	.028	.095	.138	.021	.072	-.088	.144	-.001	.254	.068	.157	.228	.119	.221	.176	.291	.153	.169	.398	.771	.124
SACQ_59	.029	.023	-.056	-.037	.010	-.026	.047	-.013	.010	-.027	.052	-.047	-.032	-.048	.033	-.049	.075	.151	.133	.223	.035	.071	.148	.078	.075	.023	.324	.585	.085
SACQ_53	.381	.407	.225	.281	.068	.218	.154	.212	.176	.095	.127	-.076	.045	-.102	.057	.008	.412	.222	.267	.444	.621	.529	.290	.433	.242	.267	.189	.194	.854
SACQ_67	.343	.382	.217	.244	.099	.272	.120	.156	.158	.147	.111	-.048	.095	-.053	.118	.013	.545	.233	.201	.388	.517	.478	.336	.398	.278	.213	.349	.199	.839

2.4.5.6 Construct Reliability and Validity of HOC₁. Table 30 shows that the sub-constructs or LOCs as indicators (giving criticism, expressing opinions, giving compliments, initiating contacts, positive self-evaluation, self-assertion, and expressing feelings & desires) utilized to characterize the first-order higher order constructs (HOC₁) named Discomfort scale in the IIS had adequate internal consistency reliability. The outer loading value for the two indicators (giving compliments and positive self-evaluation) did not exceed the level of .708. The AVE value for the HOC₁ (discomfort) passed the acceptance level of .50. The outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE values for the construct (discomfort) and indicators involved attained an acceptable and satisfactory level. Thus, the construct reliability and construct convergent validity of the HOC₁ (discomfort) are established.

For the HOC₁ (frequency), LOCs as indicators (giving criticism, expressing opinions, giving compliments, initiating contacts, positive self-evaluation, self-assertion, and expressing feelings & desires) utilized to characterize the Frequency scale in the IIS had adequate internal consistency reliability. The outer loading value for the three indicators (giving compliments, positive self-evaluation, and expressing feelings & desires) did not exceed the level of .708. The AVE value for the HOC₁ (frequency) was .464 and approximately reached the acceptance level of .50. Thus, for the HOC₁ (frequency), construct reliabilities are established, and construct convergent validity is approximately established.

Table 30 also shows that the LOCs as indicators (motivation, application, performance, and academic environment) utilized to characterize the HOC₁ (academic adjustment) in the SACQ had adequate internal consistency reliability.

Table 30*Construct Reliability and Validity of First-Order Higher-Order Constructs (HOC₁)*

HOC ₁	LOC	Construct Convergent Validity		Construct Reliability		
		Factor Loading	AVE	Cronbach α	CR (ρ_A)	CR (ρ_C)
Discomfort	Giving Criticism	0.802	0.543	0.851	0.886	0.889
	Expressing Opinions	0.883				
	Giving Compliments	0.422				
	Initiating Contacts	0.851				
	Positive Self-Evaluation	0.681				
	Self-Assertion	0.716				
	Expressing Feelings & Desires	0.709				
Frequency	Giving Criticism	0.889	0.464	0.879	0.69	0.842
	Expressing Opinions	0.839				
	Giving Compliments	0.252				
	Initiating Contacts	0.764				
	Positive Self-Evaluation	0.426				
	Self-Assertion	0.855				
	Expressing Feelings & Desires	0.441				
Academic Adjustment	Motivation	0.763	0.559	0.74	0.759	0.834
	Application	0.655				
	Performance	0.74				
	Academic Environment	0.823				
Social Adjustment	General	0.882	0.663	0.828	0.841	0.886
	Other People	0.861				
	Nostalgia	0.714				
	Social Environment	0.789				
Personal-Emotional Adjustment	Psychological	0.9	0.78	0.719	0.728	0.876
	Physical	0.866				
Institutional Adjustment	General	0.927	0.857	0.833	0.833	0.923
	This University	0.924				

The outer loading value for all indicators exceeded the level of .708. The AVE value for the HOC₁ (academic adjustment) passed the acceptance level of .50. The values of

outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE for the construct (academic adjustment) indicate good convergent validity and internal consistency reliability across the construct. Thus, the construct reliability and construct convergent validity of the HOC₁ (academic adjustment) are established.

Similarly, LOCs as indicators (general, other people, nostalgia, and social environment) utilized to characterize the HOC₁ (social adjustment) in the SACQ had adequate internal consistency reliability. The outer loading value for all indicators exceeded the level of .708. The AVE value for the HOC₁ (social adjustment) passed the acceptance level of .50. The values of outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE for the construct (social adjustment) indicate good convergent validity and internal consistency reliability across the construct. Thus, the construct reliability and construct convergent validity of the HOC₁ (social adjustment) are established.

The LOCs as indicators (psychological and physical) utilized to characterize the HOC₁ (personal-emotional adjustment) in the SACQ had adequate internal consistency reliability. The outer loading value for all indicators exceeded the level of .708. The AVE value for the HOC₁ (personal-emotional adjustment) passed the acceptance level of .50. The values of outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE for the construct (personal-emotional adjustment) indicate good convergent validity and internal consistency reliability across the construct. Thus, the construct reliability and construct convergent validity of the HOC₁ (personal-emotional adjustment) are established.

Table 30 also shows that the LOCs as indicators (general and this university) utilized to characterize the HOC₁ (institutional adjustment) in the SACQ had adequate

internal consistency reliability. The outer loading value for all indicators exceeded the level of .708. The AVE value for the HOC₁ (institutional adjustment) passed the acceptance level of .50. The values of outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE for the construct (institutional adjustment) indicate good convergent validity and internal consistency reliability across the construct. Thus, the construct reliability and construct convergent validity of the HOC₁ (institutional adjustment) are established.

2.4.5.7 Discriminant Validity of HOC₁. Table 31 shows the discriminant validity of first-order higher-order constructs (HOC₁). The HTMT values of the measurement model vary in the range of .108 - .699, which were below the stringent threshold level of acceptance (.85). This result indicated that the constructs are empirically different from the other constructs included in the measurement model.

Table 31

Discriminant Validity of First-Order Higher-Order Constructs (HOC₁): Heterotrait-Monotrait (HTMT) Ratio

HOC ₁	1	2	3	4	5	6
1. Discomfort						
2. Frequency	.429					
3. Academic Adjustment	.316	.180				
4. Social Adjustment	.397	.140	.699			
5. Personal-Emotional Adjustment	.331	.171	.535	.350		
6. Institutional Adjustment	.108	.117	.457	.540	.322	

The Fornell and Larcker criterion, which states that the square root of AVE values along the diagonal of the Fornell and Larcker scale should be greater than the correlations of all other constructs below the diagonal, is the second criterion for measuring discriminant validity (Fornell & Larcker, 1981). In Table 32, the values on the diagonal exceed the correlations of each of the corresponding components. As for

the reflective construct of Discomfort, it has a value of .737 for the square root of its AVE which is greater than Frequency (.440), Academic Adjustment (.234), Social Adjustment (.344), Personal-Emotional Adjustment (.268), and Institutional Adjustment (.021).

Table 32

Discriminant Validity of First-Order Higher-Order Constructs (HOC₁): Fornell-Larcker Criterion

HOC ₁	1	2	3	4	5	6
1. Discomfort	.737					
2. Frequency	.440	.681				
3. Academic Adjustment	.234	.179	.748			
4. Social Adjustment	.344	.152	.577	.814		
5. Personal-Emotional Adjustment	.268	.213	.374	.272	.883	
6. Institutional Adjustment	.021	.142	.392	.449	.246	.926

Similarly, as for the reflective construct of Frequency, it has a value of .681 for the square root of its AVE which is greater than Academic Adjustment (.179), Social Adjustment (.152), Personal-Emotional Adjustment (.213), and Institutional Adjustment (.142). As for the reflective construct of Academic Adjustment, it has a value of .748 for the square root of its AVE which is greater than Social Adjustment (.577), Personal-Emotional Adjustment (.374), and Institutional Adjustment (.392). As for the reflective construct of Social Adjustment, it has a value of .814 for the square root of its AVE which is greater than Personal-Emotional Adjustment (.272) and Institutional Adjustment (.449). As for the reflective construct of Personal-Emotional Adjustment, it has a value of .883 for the square root of its AVE which is greater than Institutional Adjustment (.246). Finally, as for the reflective construct of

Institutional Adjustment, it has a value of .926 for the square root of its AVE, and therefore, the second criterion of discriminant validity has been met.

Cross-loadings, or the indicator's outer loadings on one construct having a higher value than the cross-loadings with other constructs, are the third criterion for measuring discriminant validity. (Hair et al., 2017). Table 33 shows the cross-loadings for each indicator which reflected on six different constructs (HOC_1), such as Discomfort, Frequency, Academic Adjustment, Social Adjustment, Personal-Emotional Adjustment, and Institutional Adjustment. Indicators number 01-07 (giving criticism, expressing opinions, giving compliments, initiating contacts, positive self-evaluation, self-assertion, and expressing feelings & desires) load high on their corresponding construct Discomfort, and much lower on other constructs Frequency, Academic Adjustment, Social Adjustment, Personal-Emotional Adjustment, and Institutional Adjustment.

Indicators number 08-14 (giving criticism, expressing opinions, giving compliments, initiating contacts, positive self-evaluation, self-assertion, and expressing feelings & desires) load high on their corresponding construct Frequency, and much lower on other constructs Discomfort, Academic Adjustment, Social Adjustment, Personal-Emotional Adjustment, and Institutional Adjustment. Similarly, indicators number 15-18 (motivation, application, performance, and academic environment) load high on their corresponding construct Academic Adjustment, and much lower on other constructs Discomfort, Frequency, Social Adjustment, Personal-Emotional Adjustment, and Institutional Adjustment.

Table 33

Discriminant Validity of First-Order Higher-Order Constructs (HOC₁): Cross-Loadings

Indicators	IIS: Discomfort	IIS: Frequency	Academic Adjustment	Social Adjustment	Personal- Emotional Adjustment	Institutional Adjustment
01. Giving Criticism	.802	.433	.165	.236	.232	-.066
02. Expressing Opinions	.883	.341	.213	.323	.253	-.026
03. Giving Compliments	.422	.103	.129	.106	.100	.093
04. Initiating Contacts	.851	.483	.177	.298	.294	.026
05. Positive Self- Evaluation	.681	.208	.179	.240	.114	.071
06. Self-Assertion	.716	.410	.149	.253	.164	-.006
07. Expressing Feelings & Desires	.709	.204	.189	.265	.164	.074
08. Giving Criticism	.384	.889	.084	.100	.240	.065
09. Expressing Opinions	.321	.839	.165	.123	.107	.074
10. Giving Compliments	.042	.252	.006	-.110	.010	-.053
11. Initiating Contacts	.440	.764	.100	.025	.129	.062
12. Positive Self- Evaluation	.193	.426	-.110	-.088	-.041	-.112
13. Self-Assertion	.355	.855	.138	.104	.139	.158
14. Expressing Feelings & Desires	.200	.441	-.045	-.082	.031	-.004
15. Motivation	.124	.048	.763	.557	.205	.413
16. Application	.251	.154	.655	.244	.312	.076
17. Performance	.217	.174	.740	.306	.492	.170
18. Academic Environment	.151	.181	.823	.538	.178	.418
19. General	.351	.174	.544	.882	.225	.317
20. Other People	.376	.182	.493	.861	.250	.328
21. Nostalgia	.226	.066	.413	.714	.192	.246
22. Social Environment	.149	.056	.420	.789	.216	.567
23. Psychological	.251	.202	.395	.261	.900	.186
24. Physical	.220	.173	.258	.218	.866	.254
25. General	-.029	.079	.351	.426	.206	.927
26. This University	.070	.185	.375	.406	.251	.924

Indicators number 19-22 (general, other people, nostalgia, and social environment) load high on their corresponding construct Social Adjustment, and much lower on other constructs Discomfort, Frequency, Academic Adjustment, Personal-Emotional Adjustment, and Institutional Adjustment. Indicators number 23-24 (psychological and physical) load high on their corresponding construct Personal-Emotional Adjustment, and much lower on other constructs Discomfort, Frequency, Academic Adjustment, Social Adjustment, and Institutional Adjustment. Furthermore, indicators number 25-26 (general and this university) load high on their corresponding construct Institutional Adjustment, and much lower on other constructs Discomfort, Frequency, Academic Adjustment, Social Adjustment, and Personal-Emotional Adjustment. The results show that all loadings exceeded the cross-loadings, which indicates that discriminant validity has been established for all six constructs.

2.4.5.8 Construct Reliability and Validity of HOC₂. Table 34 shows that the HOC₁s as indicators (academic adjustment, social adjustment, personal-emotional adjustment, institutional adjustment, and other factor) utilized to characterize the second-order higher-order constructs (HOC₂) named University Adjustment had adequate internal consistency reliability. The outer loading value for the two indicators (personal-emotional adjustment and institutional adjustment) did not exceed the level of .708. The AVE value for the HOC₂ (university adjustment) passed the acceptance level of .50. The values of outer loading, Cronbach's alpha (α), composite reliability-CR (ρ_A & ρ_C), and AVE for the construct (university adjustment) and indicators involved achieved an acceptable and satisfactory level. Thus, the construct reliability and construct convergent validity of the HOC₂ (university adjustment) are established.

Table 34*Construct Reliability and Validity of Second-Order Higher-Order Constructs (HOC₂)*

HOC ₂	HOC ₁	Construct Convergent Validity		Construct Reliability		
		Factor Loading	AVE	Cronbach α	CR (ρ_A)	CR (ρ_C)
University Adjustment	Academic Adjustment	.806				
	Social Adjustment	.797				
	Personal-Emotional Adjustment	.670	.532	.781	.800	.848
	Institutional Adjustment	.536				
	Other Factor	.799				

2.4.5.9 Discriminant Validity of HOC₂. Table 35 shows the discriminant validity of second-order higher-order constructs (HOC₂). The HTMT values of the measurement model vary in the range of .234 - .668, which were below the stringent threshold level of acceptance (.85). This result indicated that the constructs (Fear of Negative Evaluation, IIS: Discomfort, IIS: Frequency, Self-Esteem, and University Adjustment) are empirically different from the other constructs. Table 35's diagonal has a Fornell-Larcker value that is higher than the correlations of all related constructs. As for the reflective construct of University Adjustment, it has a value of .729 for the square root of its AVE which is greater than the correlations with other constructs.

Table 35 also shows the cross-loadings for each indicator which reflected on five different constructs (HOC₂), such as Fear of Negative Evaluation, IIS: Discomfort, IIS: Frequency, Self-Esteem, and University Adjustment. Indicators (Academic Adjustment, Social Adjustment, Personal-Emotional Adjustment, Institutional Adjustment, and Other Factors) load high on their corresponding construct University Adjustment, and much lower on other constructs Fear of

Negative Evaluation, IIS: Discomfort, IIS: Frequency, and Self-Esteem. The results indicate that discriminant validity has been established for all five constructs (HOC_2).

Table 35

Discriminant Validity of Second-Order Higher-Order Constructs (HOC_2)

HTMT Ratio					
HOC_2	Fear of Negative Evaluation	IIS: Discomfort	IIS: Frequency	Self-Esteem	University Adjustment
University Adjustment	.577	.405	.196	.769	
Fornell-Larcker Criterion					
HOC_2	Fear of Negative Evaluation	IIS: Discomfort	IIS: Frequency	Self-Esteem	University Adjustment
University Adjustment	.518	.355	.234	.668	.729
Cross Loadings					
Indicators	Fear of Negative Evaluation	IIS: Discomfort	IIS: Frequency	Self-Esteem	University Adjustment
Academic Adjustment	.344	.233	.172	.543	.806
Social Adjustment	.417	.343	.144	.441	.797
Personal-Emotional Adjustment	.456	.269	.211	.614	.670
Institutional Adjustment	.096	.020	.136	.234	.536
Other Factor	.428	.312	.174	.465	.799

Table 36*Properties of Original Scale and Validated Scale*

Measures	Original Scale Properties		Observed Scale Properties							
	No. of Items	Reliability (α)	Final Items			Reliability				
			No. of Items	Deleted Items		Split-Half	Coefficient α		McDonald's ω	
BFNES	12	.90	10	2, 4		.882	.890		.893	
RSES	10	.87	6	1, 2, 4, 8		.811	.822		.814	
		Dis. Fre.				Dis. Fre.	Dis. Fre.	Dis. Fre.	Dis. Fre.	
IIS	35		28			.864 .872	.905 .917	.886 .915		
Giving Criticism	7		5	2, 10		.792 .766	.819 .800	.824 .801		
Expressing Opinions	6		5	30		.727 .727	.771 .764	.768 .762		
Giving Compliments	4	> .93	4			.717 .658	.765 .702	.769 .700		
Initiating Contacts	5		4	1		.783 .749	.744 .749	.777 .766		
Positive Self-Evaluation	4		4			.743 .686	.717 .669	.739 .690		
Self-Assertion	Not Included		3	3, 5, 18		.664 .633	.720 .661	.725 .662		
Expressing Feelings & Desires	Not Included		3			.513 .477	.561 .535	.564 .554		
SACQ	67	.92 - .95	43			.922	.918		.914	
Academic Adjustment	24	.83 - .89	14	3, 6, 23, 25, 27, 32, 41, 44, 52, 58		.761	.838		.830	
Social Adjustment	20	.83 - .91	16	14, 22, 48, 56		.876	.892		.890	
Personal-Emotional Adjustment	15	.77 - .86	7	2, 12, 24, 28, 31, 35, 49, 64		.759	.771		.770	
Institutional Adjustment	7	.85 - .91	5	47, 61		.493	.714		.701	
Other	2	-	2	-		-	-		-	

2.4.5.10 Properties of Validated BFNES, RSES, IIS, and SACQ. Table 36 represents the reliability measures of both the original scales and the validated scales across various measures. The original BFNES had 12 items with a reliability (Cronbach alpha) of 0.90. After validation, the final validated scale retained 10 items, with two items deleted. The split-half reliability of the validated scale is reported as 0.882, Cronbach's alpha as 0.890, and McDonald's omega as 0.893. These values indicate high internal consistency for the validated BFNES scale. Similar interpretations can be made for other measures such as the Rosenberg Self-Esteem, Inventory of Interpersonal Relations, and various adjustment scales. It's important to note that some items were deleted during the validation process to enhance the reliability of the scales. The split-half reliability, Cronbach's alpha, and McDonald's omega values provide insights into the internal consistency reliability of the validated scales.

In summary, the validation of the BFNE scale confirmed its reliability and validity in a social anxiety population, by removing two items. The final 10 items displayed strong internal consistency and discriminant validity, indicating a reliable and valid tool for measuring fear of negative evaluation in Bangladesh. The validation of IIS Discomfort and Frequency scales showed strong reliability and validity, with removing seven items. The internal consistency was high, and both scales of 28 items each demonstrated good construct convergent and discriminant validity, making them effective tools for assessing social anxiety in social interaction within the cultural context of Bangladesh.

Similarly, the validation of the RSES highlighted issues with four items, leading to their removal to enhance construct reliability and validity. The validated scale of 6 items demonstrated improved psychometric properties, including internal

consistency, construct reliability, convergent validity, and discriminant validity, establishing it as a robust measure of self-esteem in Bangladesh. The validation analysis of SACQ revealed areas for improvement across various domains of university adjustment. Through iterative refinement, 23 problematic items were identified and removed, leading to enhanced construct reliability and validity. The final version of 43-item SACQ demonstrated satisfactory psychometric properties, including internal consistency, construct reliability, convergent validity, and discriminant validity, making it a reliable and valid tool for measuring adjustment to university life in Bangladesh.

2.5 Ethical Considerations

The present study was approved (Ref. No. 203/Biol.Sc.; Date: December 20, 2022) by the Ethical Review Committee of the Faculty of Biological Sciences, University of Dhaka, Dhaka, Bangladesh. To comply with the ethical principles and standards of the American Psychological Association (APA), this researcher sought consent from university-level students and institutional or departmental heads who gave their permission and authorization for researcher/research assistants to conduct the study using their pupils. The researcher explained the primary aim of the study to the participants and heads of each department/institution. The participants were also informed that they had the right to refrain from participating in the study at any time. They were assured that any information collected would be confidential and used only for the study. In addition, they were informed that there were no right or wrong answers in the assessment measures; it is just an honest expression of their feelings and behaviors.

2.6 Procedure

2.6.1 Social Skill Training Program

Though Wilkinson and Canter (1982) recommended 12 sessions for a psychiatric out-patient population, in the present study the participants were administered eight group sessions of SST in four days following the Bangla-translated version (by the researcher) of the SST manual over four weeks. However, the eight group sessions included all components of non-verbal, verbal, and assertive communication skills which were included in the original SST manual. Each group was comprised of 8-14 participants and the length of each session was 120-150 minutes.

The methods or techniques (Wilkinson & Canter, 1982) employed in social skill training were: instruction (general talk or description of specific social skill); modeling (demonstrating appropriate behavior), behavioral rehearsal or role-play (practicing the skill in simulated social situation), warm-up exercises (initial activity designed to prepare participants for the role-play, i.e., relaxation), reinforcement (systematic use of feedback or knowledge of results and reward, i.e., praise, encouragement, etc.), and homework assignments (practicing the newly learned behavior outside the sessions or in real-life situations). Before practicing each skill, the therapist gave participants instructions on how to do the skill, explained its purpose, and exhibited the desired behavior. After every role-play, participants received constructive criticism and genuine comments. The goal of the weekly homework was to practice the social skills that would be covered in the following session.

In the first training session, participants were provided an overview of SST and were taught nonverbal behaviors (i.e., posture, gait, appearance, gesture,

proximity, facial expression, eye contact, and vocal cues) with two behavioral rehearsals and muscular relaxation. The details of the SST program are presented in Table 37.

Table 37

Details of the SST Program

Day	Session	Target Skill	Description	Duration (Minutes)	Homework
1		Introduction	Introduction to therapists and participants	10	Practice every day: -sitting and walking in a relaxed and confident manner. -identify a situation in which to practice a non-verbal greeting.
		Introduction to SST	Defining SST, discussing its necessary and benefits, techniques used, and tasks required during the training	20	
	1	Non-Verbal Behavior-I	Posture, gait, appearance, and gesture	45	
	2	Non-Verbal Behavior-II	Proximity, facial expression, eye contact, and vocal cues	45	
2	3	Verbal Behavior-I	Listening, encouraging others to talk, and asking questions	60	Practice each behavior once a day
	4	Verbal Behavior-II	Talking, opening, maintaining, and closing conversation	60	
3	5	Assertive Behavior-I	Standing up for your rights	60	Choose and practice a situation once a day
	6	Assertive Behavior-II	Making a request, coping with refusal, accepting a request, and refusing a request	60	
4	7	Assertive Behavior-III	Paying compliments, receiving compliments, and showing affection	60	Practice each behavior at least 3 times during the week
	8	Summary & Closing	Open Discussion on SST	30	
			Feedback on SST	30	

Posture refers to the position and alignment of the body's various body parts, including the head, neck, shoulders, spine, and limbs, while standing or sitting. But gait refers to the manner or pattern of walking. Appearance refers to the visual

characteristics of a person including their physical attributes, clothing, grooming, and overall presentation.

In the second session, after taking positive event reports and homework feedback, participants were taught verbal behaviors (e.g., listening, encouraging others to talk, asking questions, talking, opening, maintaining, and closing conversation) with two behavioral rehearsals and muscular relaxation. In the third session, after taking positive event report and homework feedback, participants were taught another verbal behavior named assertive behaviors-I (e.g., standing up for your rights, making a request, coping with refusal, accepting a request, and refusing a request) with two behavioral rehearsals and muscular relaxation. In the last session, after taking positive event reports and homework feedback, participants were taught assertive behaviors-II (e.g., paying compliments, receiving compliments, and showing affection) with a behavioral rehearsal, relaxation, discussion, and conclusion.

2.6.2 Therapists or Trainers

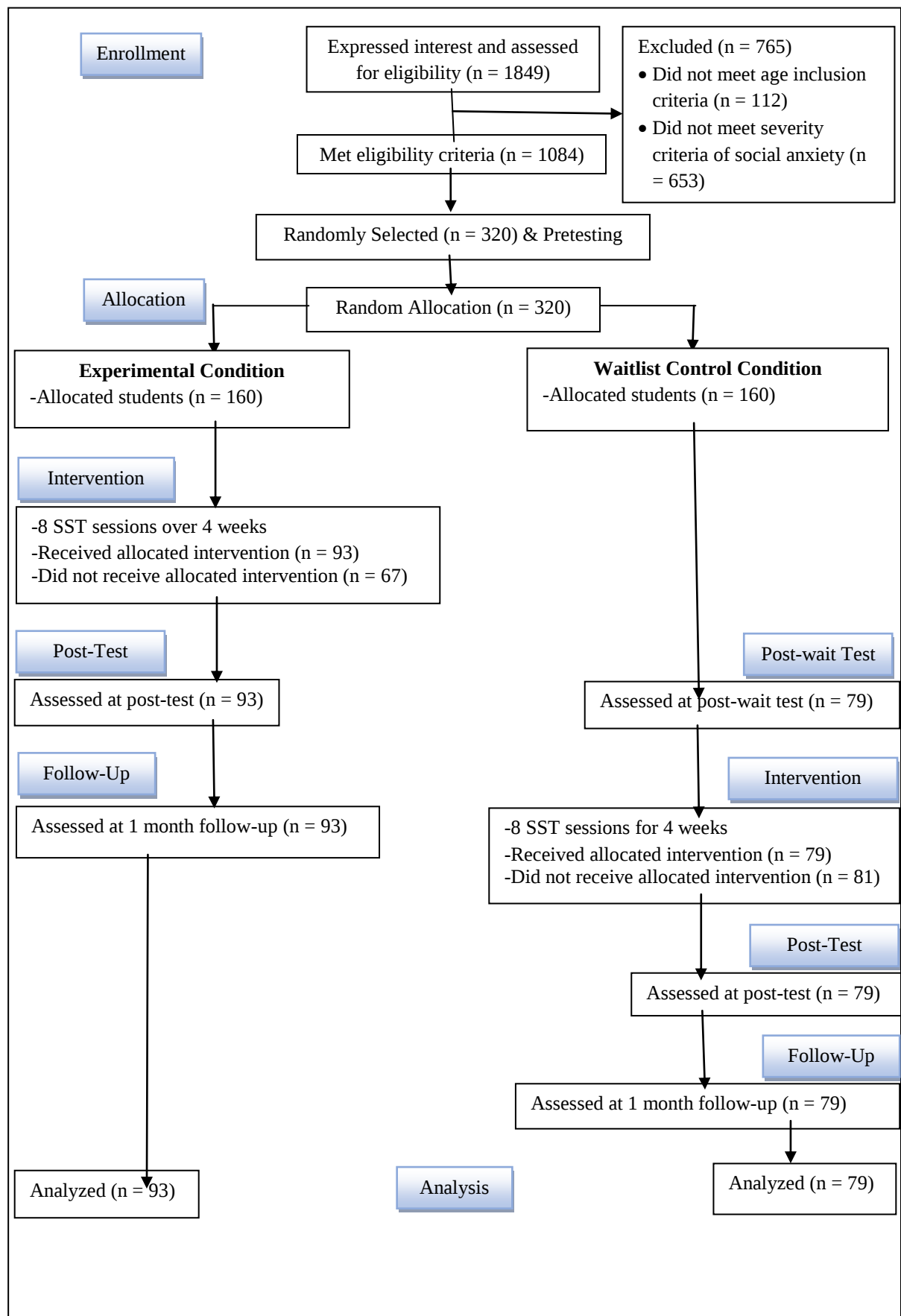
A total of 12 post-graduate students (8 females and 4 males) in psychology, counseling psychology, or clinical psychology were recruited (through advertisements on university notice boards and social media) as trainers (or therapists or research assistants) to conduct the social skill training. Although most of them had previous experience in conducting social skill training, a day-long training on SST, based on Bangla translated version of the original manual of SST (Wilkinson & Canter, 1982) was administered to them for the standardization of SST skills. They were skilled in counseling practices where they had their major training, i.e., psychological first aid, basic and advanced counseling skills, cognitive-behavior therapy, etc.

2.6.3 Experimental Procedure

The study's experimental procedures commenced with the researcher's visits to eight universities/university-level institutions. During these visits, meetings were held with the heads/representatives of the psychology departments or students counseling and guidance offices to secure necessary permissions from the institutional authorities. The study's objectives were conveyed to the authorities through a formal letter prepared by the researcher, and these requests were duly approved.

Following this initial administrative phase, the respective psychology departments and students counseling offices took active steps to inform students about the research opportunity. Notices were disseminated through various channels, including notice boards, social media, and official websites, inviting students to voluntarily participate in a Social Skill Training (SST) program. To facilitate expressions of interest, a Google Form link and QR code were provided. Impressively, 1,849 students expressed their willingness to participate.

However, eligibility criteria, including age (17-25 years) and specific social anxiety levels (mild, moderate, and severe), led to 1,084 students meeting the criteria and thus forming the participant pool. The CONSORT-SPI 2018 flow diagram (see Figure 5) effectively illustrates this enrollment process. From this pool, 320 students were randomly selected from the eight participating institutions, thereby creating both experimental and waitlist control conditions, totaling 16 groups, each comprising 20 students. Pretesting was conducted using a set of measures, including assessments of social anxiety (BFNE and IIS), self-esteem (RSES), university adjustment (SACQ), and a personal information form.

Figure 5*Flow Diagram of Participant's Enrollment Following CONSORT-SPI 2018 Guideline*

The 320 participants were then randomly assigned to either the experimental condition ($n = 160$) or the waitlist control condition ($n = 160$). In the experimental condition, 93 participants received SST intervention over four weeks, involving eight sessions, with post-tests conducted at the end of the eighth session. Meanwhile, participants in the waitlist control condition waited for four weeks without intervention, and post-wait tests were administered to 79 participants at that point. Notably, the researcher successfully formed 16 groups across the eight institutions, comprising eight experimental and eight waitlist control groups. These groups accommodated 8 to 14 students each while accounting for potential dropouts.

Subsequently, follow-up assessments were conducted in the experimental condition one month later. During this interval, the same SST intervention, consisting of eight sessions over four weeks, was delivered to the participants in the waitlist control group. Post-tests were conducted at the end of the eighth session. A similar set of follow-up assessments was administered to the participants in the waitlist control group after one month. All the participants received certificates with thanks as an incentive for participating in the SST intervention study.

2.6.4 Program Fidelity

In both the experimental and waitlist control groups, research assistants played a critical role in ensuring the fidelity or integrity of the SST program. Beyond their primary responsibilities of recording participants' compliance with homework assignments, attendance, session highlights, and makeup sessions, research assistants also played a key role in upholding the quality and consistency of the intervention. To safeguard program fidelity, research assistants diligently documented each participant's adherence to the assigned homework task, their consistent attendance at SST sessions, and the key highlights and insights observed during these sessions.

These records not only provided a comprehensive overview of each participant's engagement with the program but also allowed for the ongoing assessment of program delivery.

Moreover, in cases where participants were unable to attend scheduled sessions, makeup sessions were organized, and research assistants documented the participants' active participation in these sessions, ensuring that they were given the opportunity to catch up on any missed content. This proactive approach served to maintain program integrity by minimizing the impact of missed sessions and preserving the overall consistency of the intervention delivery.

2.7 Statistical Analysis

The collected data were analyzed by descriptive and inferential statistics using SPSS Statistics 27 and by partial least square structural equation modeling (PLS-SEM) method using SmartPLS 4 (Ringle et al., 2024). Before analysis, the data were entered, coded, cleaned, transformed, and computed in SPSS 27. Demographic characteristics (frequency and percentage or mean and standard deviation) were calculated for participants in both experimental and waitlist control groups. Chi-square tests for categorical variables and independent-sample *t*-tests for continuous variables were conducted (see Table 3) to determine whether there were significant differences between EG and WCG. This was done to check whether variables needed to be added as covariates in the main analysis.

To address the first objective, i.e., to compare the changes in social anxiety, self-esteem, and university adjustment scores between the EG and WCG at pretest, post-test, and follow-up time points, the researcher conducted independent-sample *t*-tests with effect size (Cohen's *d*). To address the second objective, i.e., to compare the changes in social anxiety, self-esteem, and university adjustment scores among

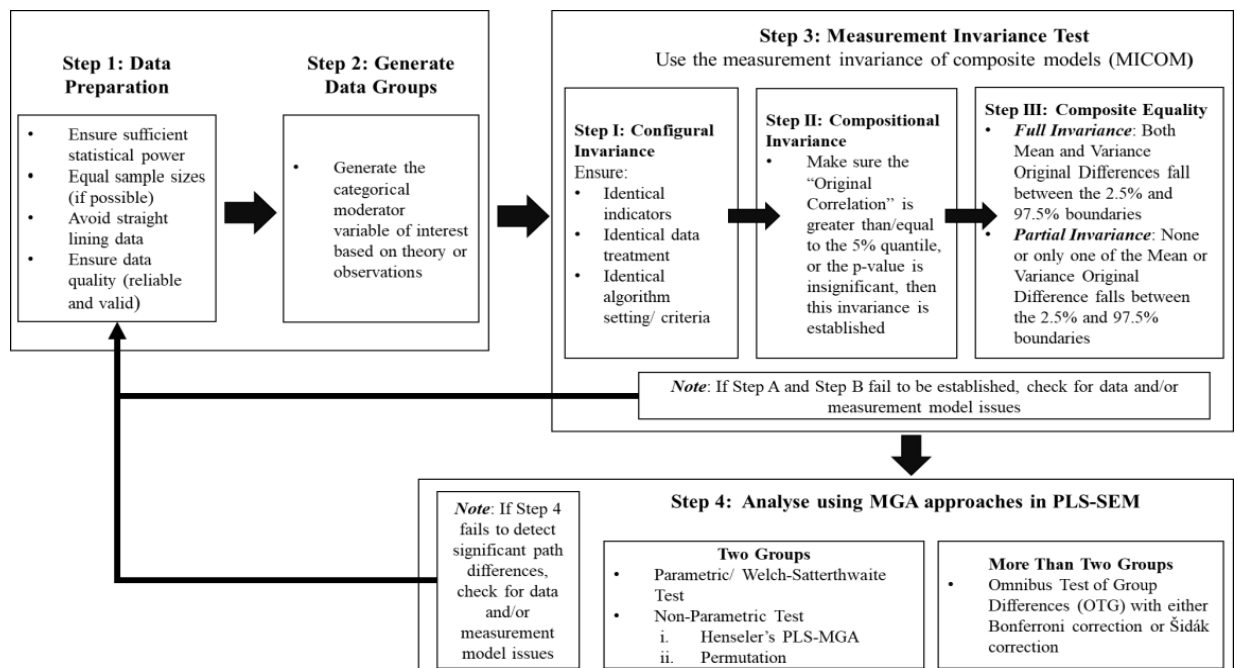
pretest, post-test, and follow-up time points within the EG and WCG, one-way repeated measures ANOVA with post-hoc analyses were conducted.

To address the third objective, i.e., to investigate the interaction effect of groups (EG and WCG) and time-points (pretest, post-test, and follow-up test) in social anxiety, self-esteem, and university adjustment scores, the researcher conducted repeated measures MANOVA with univariate and multivariate effects. To address the fourth objective, i.e., to assess the mediation effect of self-esteem in the relationship between social anxiety and university adjustment scores in EG and WCG, the researcher, at first, conducted measurement invariance of composites (MICOM) and multi-group analysis (MGA) tests between EG and WCG. Then, the overall structural or path model, the structural model in EG and WCG separately, and finally mediation effects of self-esteem were conducted.

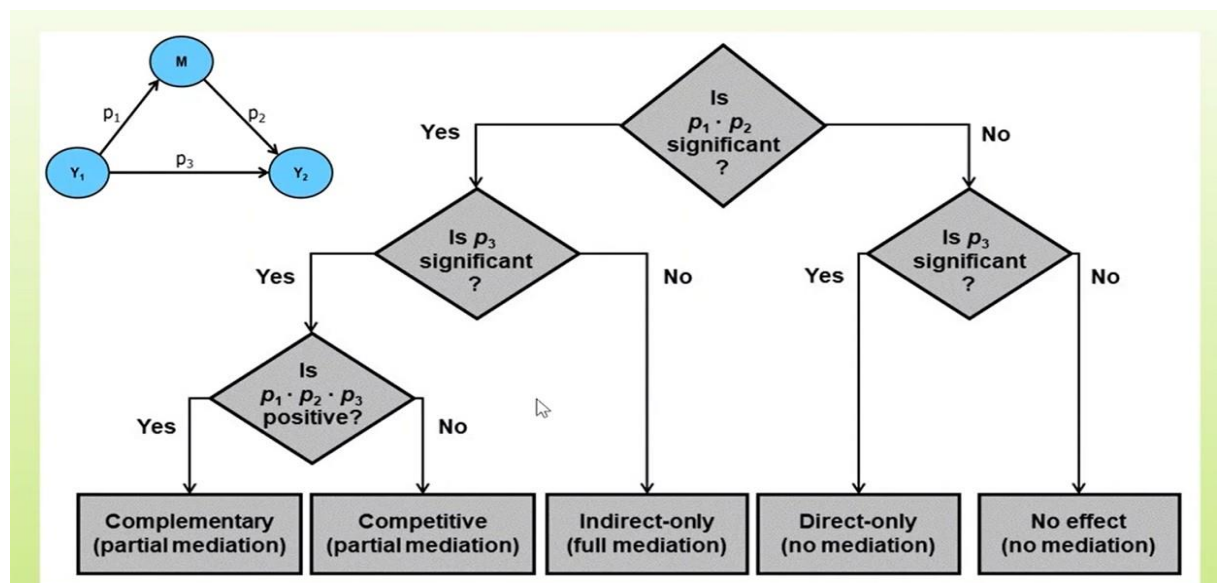
The researcher employed the following steps, following the guidelines presented in Table 38, Figure 6, and Figure 7, for conducting data analysis: (1) Descriptive statistics for demographic variables at baseline, (2) Comparison of changes between experimental and waitlist control groups (Independent-sample *t*-test) at pretest, post-wait/post-test-1, post-test, and follow-up test, (3) Comparison of changes within experimental and waitlist control groups (One-way repeated measures ANOVA) among pretest, post-wait/post-test-1, post-test, and follow-up test, (4) Interaction effect (Repeated measures MANOVA) of group (EG and WCG) and time-points (pretest and post-test), and (5) Group-wise mediation effect of self-esteem (measurement invariance of composites or MICOM, multi-group analysis or MGA, and structural or path model).

Table 38*Data Analysis Techniques and Assumptions on Its Indexes*

Analysis	Index	Assumption	Reference	Tool
Demographics	Mean, Standard Deviation, Frequency, and Percentage	N/A	N/A	SPSS
	χ^2 and t	$p > .05$ indicates no difference between EG and WCG	Fisher, 1925	
Independent-Sample t -test	t -value	$p \leq .05$	Fisher, 1925	
	Effect Size (Cohen's d)	.20 = Small effect .50 = Medium effect .80 = Large effect	Cohen, 1988	
One-Way Repeated Measures ANOVA	Univariate (F -Test) and Multivariate (Wilks' Lambda) Effect	$p \leq .05$	Fisher, 1925	
	Effect Size (Partial η^2)	.01 = Small effect .06 = Medium effect .14 = Large effect	Cohen, 1988	
Repeated Measures MANOVA	Univariate (F -Test) and Multivariate (Wilks' Lambda) Effect of Group, Time, and Interaction	$p \leq .05$	Fisher, 1925	
	Effect Size (Partial η^2)	.01 = Small effect .06 = Medium effect .14 = Large effect	Cohen, 1988	
Structural or Path Model	t -value	$t = 1.96$ $p \leq .05$	Hair et al., 2017, 2019; Fisher, 1925	
	Bias Corrected Confidence Interval (BCCI)	Lower-Upper: Positive-Positive/ Negative-Negative	Hair et al., 2017, 2019	
	Explanatory Power (R^2)	0.75 = Substantial 0.50 = Moderate 0.25 = Weak	Hair et al., 2014, 2019	
	Effect Size (f^2)	0.02 = Small Effect 0.15 = Medium Effect 0.35 = Large Effect	Hair et al., 2014	
	Predictive Power (Q^2)	0.50 = Large 0.25 = Medium 0.00 = Small	Hair et al., 2017, 2019	
Mediation Analysis	Variance Accounted For (VAF)	> 80% = Full Mediation 20% - 80% = Partial Mediation < 20% = No Mediation	Hair et al., 2019	SmartPLS

Figure 6*Guidelines for MGA and MICOM Tests Using SmartPLS 4*

Source: Cheah et al., 2020

Figure 7*Guidelines for Mediation Analysis Using SmartPLS 4*

Source: Hair et al., 2017

Chapter 3:

Results

Results

This section presents the findings of the study conducted to evaluate the impact of SST on social anxiety, self-esteem, and university adjustment among university students in Bangladesh. The results are presented systematically, beginning with descriptive statistics, followed by inferential statistics, to address the four specific objectives. The analysis includes independent sample t-test, one-way repeated measures ANOVA, repeated measures MANOVA, mediation analysis with structural model, MICOM, and MGA.

3.1 Comparison of Changes in Studied Variables between Experimental and Control Groups

Table 39 shows that there were no significant differences ($p > .05$) between mean scores of experimental and waitlist control groups at the pretest time-point on fear of negative evaluation, self-esteem, interpersonal situation (discomfort & frequency), and university adjustment. Figure 8 also shows that both experimental and waitlist control groups had equivalent mean scores in social anxiety (fear of negative evaluation, interpersonal situation: discomfort & frequency), self-esteem, and university adjustment. Thus, the experimental and waitlist control groups were equivalent before the SST intervention.

Table 40 indicates that the experimental group showed significant decreases ($p < .05$) in fear of negative evaluation and interpersonal situations (discomfort and its subscales) in the post-test scores compared to the waitlist control group at the post-wait test. Though the experimental group showed decreases in the interpersonal situations (frequency) scale and its subscales in the post-test scores compared to the waitlist control group at the post-wait test, the mean differences were not significant

($p > .05$). Also, the experimental group showed a significant increase ($p < .05$) in self-esteem (indicated by lower scores on RSES) in the post-test scores compared to the waitlist control group at the post-wait test. Similarly, the experimental group showed a significant increase ($p < .05$) in university adjustment (indicated by lower scores on SACQ) in the post-test scores compared to the waitlist control group at the post-wait test. Here, the experimental group was tested after receiving SST, and the waitlist control group was tested without receiving SST. The significant differences in fear of negative evaluation, interpersonal situations: discomfort & frequency, self-esteem, and university adjustment had moderate to large effect sizes.

Figure 8

Social Anxiety, Self-Esteem, and University Adjustment at Pretest Time Point Between Experimental and Waitlist Control Groups

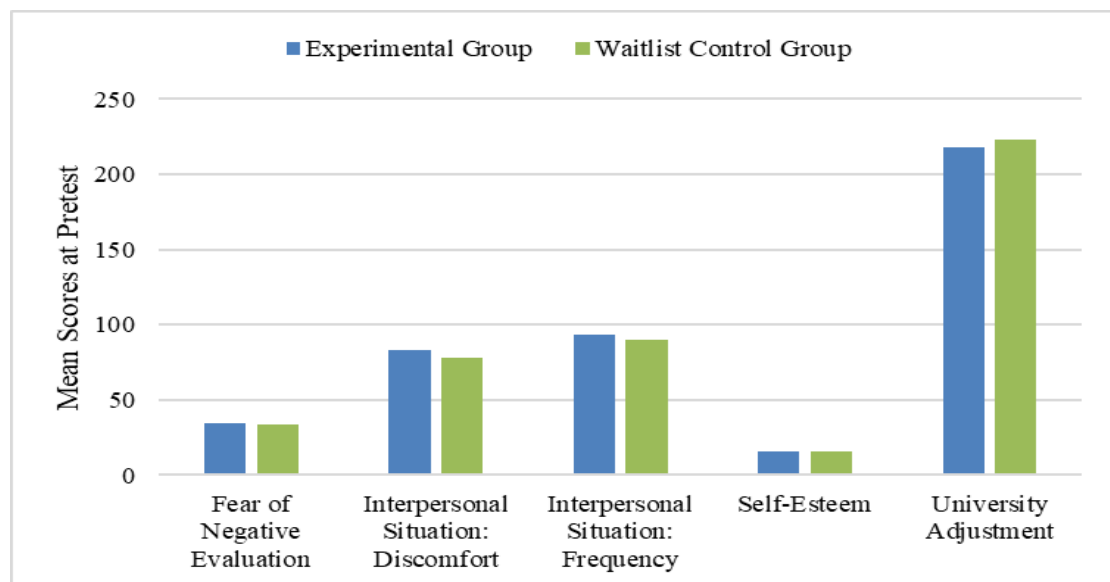


Table 39

Mean Difference of Pretest Scores on Different Measures Between Experimental and Waitlist Control Groups

Variable	Pre-Test				<i>t</i> (170)	<i>p</i>	Cohen's <i>d</i>
	EG		WCG				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Fear of Negative Evaluation	34.24	8.55	33.51	9.94	0.518	.605	.079
Self-Esteem	15.89	4.11	15.58	3.42	0.532	.595	.081
Interpersonal Situation: Discomfort	83.05	21.45	77.68	18.80	1.731	.085	.265
Giving Criticism	15.85	5.86	14.82	5.59	1.170	.244	.179
Expressing Opinions	15.12	4.53	14.66	4.42	0.671	.503	.103
Giving Compliments	10.73	4.29	9.39	4.22	2.055	.041	.314
Initiating Contacts	12.16	4.04	11.38	4.58	1.189	.236	.182
Positive Self-Evaluation	10.60	3.79	10.00	3.88	1.027	.306	.157
Self-Assertion	9.75	3.48	8.96	3.35	1.513	.132	.231
Expressing Feelings & Desires	8.84	2.96	8.47	2.49	0.880	.380	.135
Interpersonal Situation: Frequency	93.05	20.01	89.58	19.04	1.159	.248	.177
Giving Criticism	15.63	5.34	14.59	4.71	1.344	.181	.206
Expressing Opinions	16.33	4.49	16.29	3.87	0.065	.948	.010
Giving Compliments	14.33	3.46	13.30	4.05	1.798	.074	.275
Initiating Contacts	13.06	3.89	12.32	4.24	1.207	.229	.185
Positive Self-Evaluation	13.27	3.33	13.05	3.43	0.422	.673	.065
Self-Assertion	9.75	3.08	9.77	2.73	-0.043	.965	-.007
Expressing Feelings & Desires	10.67	2.49	10.25	2.52	1.078	.282	.165
University Adjustment	217.80	58.41	223.25	45.71	-0.673	.502	-.103
Academic Adjustment	73.38	22.20	76.11	17.45	-0.905	.367	-.136
Motivation	12.77	6.44	13.14	5.63	-0.392	.695	-.060
Application	13.32	4.14	13.00	3.95	0.520	.604	.080
Performance	25.60	7.40	25.77	6.53	-0.158	.874	-.024
Academic Environment	21.68	9.79	24.20	8.86	-1.760	.080	-.269
Social Adjustment	76.28	28.14	78.35	24.35	-0.512	.609	-.078
General	33.67	14.21	34.49	12.12	-0.412	.681	-.062
Other People	19.32	8.14	19.18	7.80	0.119	.905	.018
Nostalgia	10.69	4.44	11.27	4.45	-0.849	.397	-.130
Social Environment	12.60	6.07	13.42	5.21	-0.936	.350	-.143
Personal-Emotional Adjustment	44.38	11.77	44.59	11.26	-0.124	.902	-.019
Psychological	26.75	7.14	26.51	7.55	0.220	.826	.034
Physical	17.62	6.21	18.09	5.09	-0.539	.590	-.081
Institutional Adjustment	17.99	8.51	19.25	8.81	-0.955	.341	-.146
General	5.97	3.65	5.92	3.36	0.081	.935	.012
This University	12.02	5.59	13.33	6.32	-1.440	.152	-.220

Table 40

Mean Difference Between Post-test Scores in Experimental Group and Post-Wait Scores in Waitlist Control Groups on Different Measures

Variable	EG (post-test)		WCG (post-wait)		t(170)	p	Cohen's d
	M	SD	M	SD			
Fear of Negative Evaluation	24.94	7.04	32.73	10.46	-5.632	<.001	-.889
Self-Esteem	13.27	3.96	15.51	3.56	-3.863	<.001	-.591
Interpersonal Situation: Discomfort	68.73	21.52	80.49	21.43	-3.579	<.001	-.548
Giving Criticism	13.83	4.68	15.47	5.59	-2.066	.041	-.321
Expressing Opinions	12.41	4.64	14.76	4.72	-3.286	.001	-.503
Giving Compliments	8.47	4.34	9.75	4.47	-1.892	.060	-.289
Initiating Contacts	10.02	3.55	12.29	4.29	-3.738	<.001	-.581
Positive Self-Evaluation	9.02	4.18	10.37	3.80	-2.194	.030	-.336
Self-Assertion	8.31	3.06	9.27	2.93	-2.076	.039	-.318
Expressing Feelings & Desires	6.67	2.78	8.59	2.84	-4.486	<.001	-.686
Interpersonal Situation: Frequency	88.02	23.74	92.46	20.16	-1.307	.193	-.200
Giving Criticism	14.82	4.93	15.70	4.78	-1.183	.239	-.181
Expressing Opinions	15.16	4.46	16.29	4.29	-1.683	.094	-.258
Giving Compliments	13.38	4.36	13.41	3.83	-0.046	.964	-.007
Initiating Contacts	12.13	3.93	13.27	3.97	-1.880	.062	-.288
Positive Self-Evaluation	13.05	4.49	13.13	3.65	-0.117	.907	-.018
Self-Assertion	9.67	2.83	10.10	2.86	-0.998	.319	-.153
Expressing Feelings & Desires	9.82	3.09	10.57	2.48	-1.770	.079	-.266
University Adjustment	180.24	57.79	224.51	48.38	-5.390	<.001	-.825
Academic Adjustment	62.44	22.83	77.04	17.90	-4.697	<.001	-.705
Social Adjustment	60.35	24.62	79.03	25.06	-4.915	<.001	-.752
Personal-Emotional Adjustment	37.18	13.26	44.25	10.58	-3.888	<.001	-.584
Institutional Adjustment	16.62	8.46	19.54	8.99	-2.193	.030	-.336

Figure 9

Social Anxiety, Self-Esteem, and University Adjustment at Post-Test/Post-Wait Test Between Experimental and Waitlist Control Groups

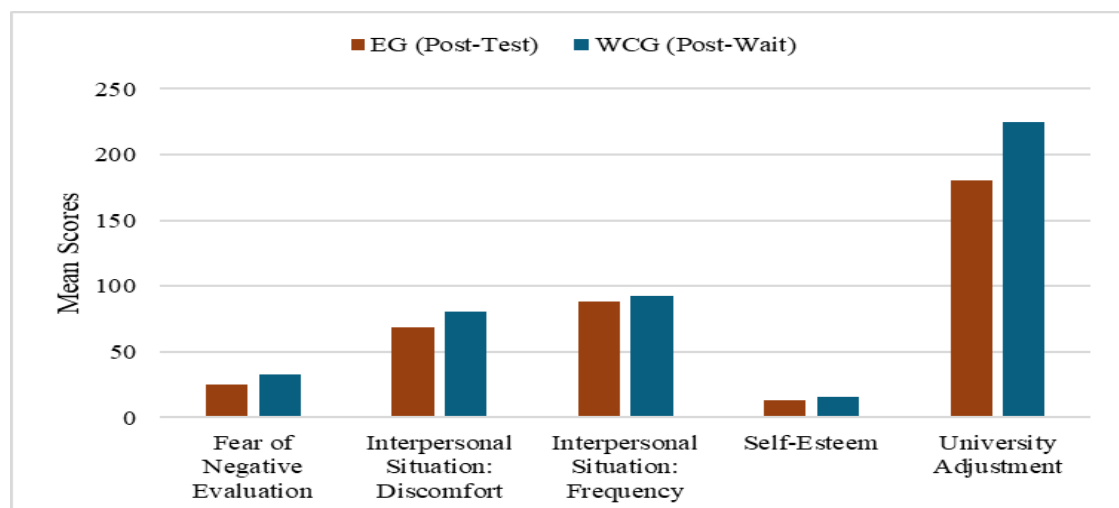


Figure 9 shows that mean scores on fear of negative evaluation, interpersonal situations: discomfort & frequency, self-esteem, and university adjustment in the experimental group at the post-test were lower than the waitlist control group at the post-wait test. Thus, the experimental group receiving SST showed a significant decrease in social anxiety but significant increases in self-esteem and university adjustment compared to the post-wait scores of the waitlist control group.

Table 41 represents the mean difference of post-test scores between experimental and waitlist control groups, where both groups were tested after receiving SST. No significant differences ($p > .05$) were found in Fear of Negative Evaluation, Self-Esteem, Interpersonal Situation (Discomfort & Frequency), and University Adjustment between the experimental and waitlist control group at the post-test time-point. Figure 10 also shows that experimental and waitlist control groups had almost equivalent mean scores in social anxiety (fear of negative evaluation, interpersonal situation: discomfort & frequency), self-esteem, and university adjustment at post-test condition.

Figure 10

Social Anxiety, Self-Esteem, and University Adjustment at Post-Test Between Experimental and Waitlist Control Groups

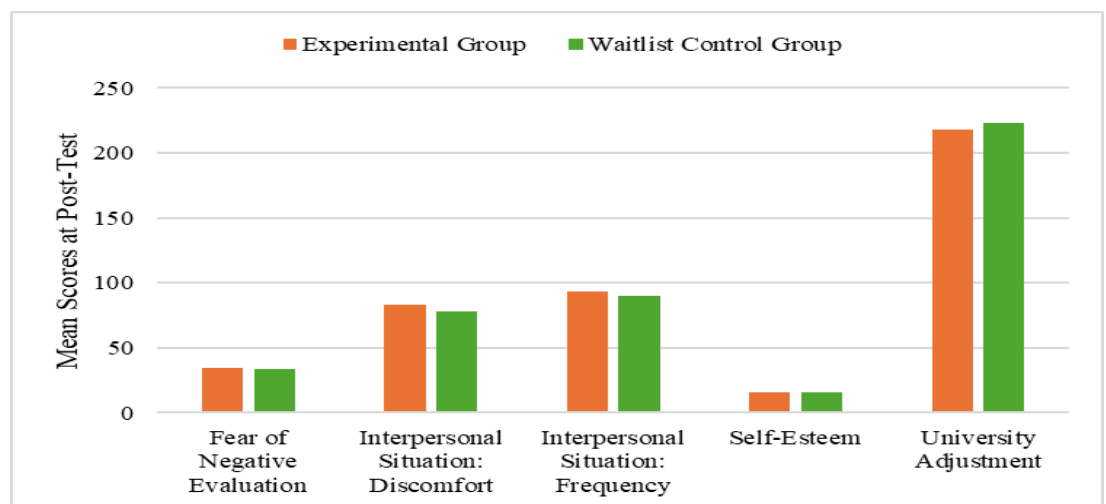


Table 41

Mean Difference of Post-Test Scores on Different Measures Between Experimental and Waitlist Control Groups

Variable	Post-Test						
	EG		WCG		<i>t</i> (170)	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Fear of Negative Evaluation	24.94	7.04	26.03	9.12	-0.865	.388	-.135
Self-Esteem	13.27	3.96	13.76	3.80	-0.825	.411	-.126
Interpersonal Situation: Discomfort	68.73	21.52	69.99	18.00	-0.411	.682	-.063
Giving Criticism	13.83	4.68	13.63	4.31	0.283	.778	.043
Expressing Opinions	12.41	4.64	12.54	4.42	-0.196	.845	-.030
Giving Compliments	8.47	4.34	8.44	3.75	0.048	.962	.007
Initiating Contacts	10.02	3.55	10.44	3.75	-0.756	.451	-.116
Positive Self-Evaluation	9.02	4.18	9.15	3.60	-0.217	.828	-.033
Self-Assertion	8.31	3.06	8.62	2.76	-0.689	.492	-.105
Expressing Feelings & Desires	6.67	2.78	7.15	2.60	-1.174	.242	-.180
Interpersonal Situation: Frequency	88.02	23.74	90.96	21.74	-0.841	.401	-.129
Giving Criticism	14.82	4.93	15.15	4.62	-0.457	.648	-.070
Expressing Opinions	15.16	4.46	15.90	4.58	-1.067	.288	-.163
Giving Compliments	13.38	4.36	13.81	3.86	-0.685	.494	-.105
Initiating Contacts	12.13	3.93	12.89	3.99	-1.249	.213	-.191
Positive Self-Evaluation	13.05	4.49	13.32	3.74	-0.412	.681	-.063
Self-Assertion	9.67	2.83	9.84	2.83	-0.389	.697	-.060
Expressing Feelings & Desires	9.82	3.09	10.06	2.67	-0.554	.580	-.085
University Adjustment	180.24	57.79	194.63	53.55	-1.684	.094	-.258
Academic Adjustment	62.44	22.83	69.44	18.15	-2.240	.026	-.336
Social Adjustment	60.35	24.62	66.89	25.77	-1.697	.092	-.260
Personal-Emotional Adjustment	37.18	13.26	37.94	12.36	-0.383	.702	-.059
Institutional Adjustment	16.62	8.46	16.39	8.13	0.182	.856	.028

Table 42 shows that there were no significant differences ($p > .05$) between the experimental and waitlist control groups at the 1-month follow-up time-point in Fear of Negative Evaluation, Self-Esteem, Interpersonal Situation (Discomfort & Frequency), and University Adjustment. Figure 11 also shows that experimental and waitlist control groups had almost equivalent mean scores in social anxiety (fear of negative evaluation, interpersonal situation: discomfort & frequency), self-esteem, and university adjustment at follow-up tests.

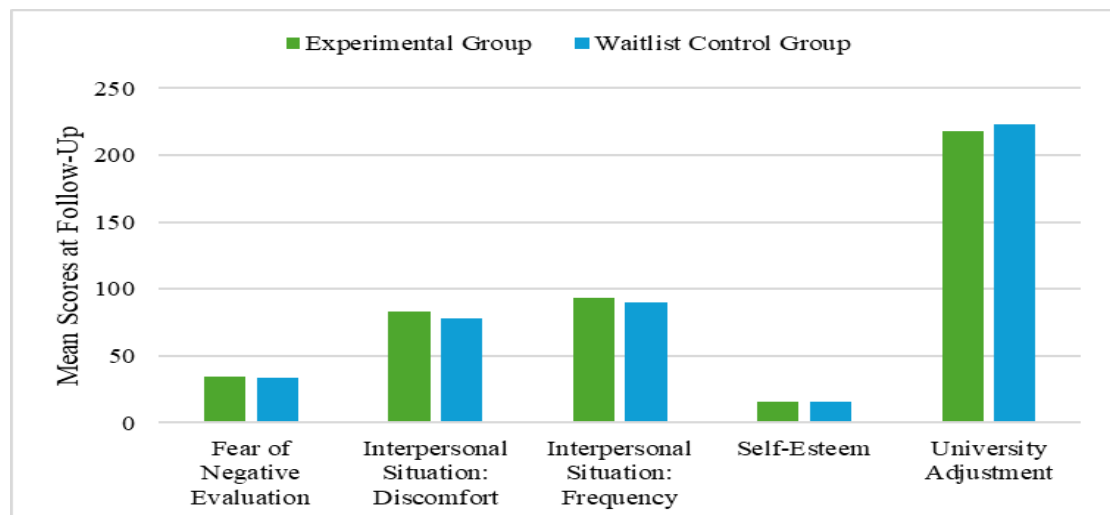
Table 42

Mean Difference of Follow-Up Scores on Different Measures Between Experimental and Waitlist Control Groups

Variable	1-Month Follow-Up Test						
	EG		WCG		<i>t</i> (170)	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Fear of Negative Evaluation	22.52	7.49	23.03	8.36	-0.421	.674	-.064
Self-Esteem	12.44	4.57	12.75	3.94	-0.472	.638	-.071
Interpersonal Situation: Discomfort	63.82	19.82	65.20	19.69	-0.458	.647	-.070
Giving Criticism	12.94	4.57	13.00	4.60	-0.092	.927	-.014
Expressing Opinions	11.40	4.05	11.44	4.33	-0.071	.944	-.011
Giving Compliments	7.83	3.91	8.01	3.73	-0.315	.753	-.048
Initiating Contacts	9.33	3.26	9.90	3.98	-1.023	.308	-.157
Positive Self-Evaluation	8.12	3.54	8.46	3.44	-0.631	.529	-.097
Self-Assertion	7.97	2.88	8.04	2.97	-0.157	.875	-.024
Expressing Feelings & Desires	6.24	2.80	6.35	2.65	-0.282	.778	-.043
Interpersonal Situation: Frequency	91.53	24.30	91.44	25.98	0.022	.983	.003
Giving Criticism	15.22	5.02	14.52	5.09	0.900	.369	.138
Expressing Opinions	15.99	4.78	16.00	5.32	-0.014	.989	-.002
Giving Compliments	14.25	4.39	14.08	4.81	0.244	.807	.037
Initiating Contacts	12.84	3.87	13.13	4.26	-0.464	.643	-.071
Positive Self-Evaluation	13.34	4.06	13.61	4.03	-0.425	.671	-.065
Self-Assertion	9.42	2.81	9.67	3.12	-0.556	.579	-.085
Expressing Feelings & Desires	10.47	3.15	10.44	2.99	0.064	.949	.010
University Adjustment	168.26	65.42	176.49	56.73	-0.874	.383	-.134
Academic Adjustment	57.68	24.30	63.47	21.64	-1.637	.103	-.250
Social Adjustment	57.41	27.08	59.91	23.71	-0.639	.524	-.098
Personal-Emotional Adjustment	34.44	14.66	34.08	13.41	0.169	.866	.026
Institutional Adjustment	15.40	9.43	16.32	9.08	-0.647	.518	-.099

Figure 11

Social Anxiety, Self-Esteem, and University Adjustment at Follow-Up Test Between Experimental and Waitlist Control Groups



3.2 Comparison of Changes in Studied Variables among Different Time Points within Experimental and Control Groups

Table 43

Univariate and Multivariate Analysis from One-Way Repeated Measures ANOVA within Experimental Group

Variable	Pretest (T ₁)		Post-Test (T ₂)		Follow-Up Test (T ₃)		Univariate Effect of SST		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>	η^2
Fear of Negative Evaluation	34.24	8.55	24.94	7.04	22.52	7.49	95.915	<.001	.510
Self-Esteem	15.89	4.11	13.27	3.96	12.44	4.57	47.490	<.001	.340
IIS: Discomfort	83.05	21.45	68.73	21.52	63.82	19.82	43.574	<.001	.321
Giving Criticism	15.85	5.86	13.83	4.68	12.94	4.57	15.547	<.001	.145
Expressing Opinions	15.12	4.53	12.41	4.64	11.40	4.05	35.348	<.001	.278
Giving Compliments	10.73	4.29	8.47	4.34	7.83	3.91	27.984	<.001	.233
Initiating Contacts	12.16	4.04	10.02	3.55	9.33	3.26	30.092	<.001	.246
Positive Self-Evaluation	10.60	3.79	9.02	4.18	8.12	3.54	21.421	<.001	.189
Self-Assertion	9.75	3.48	8.31	3.06	7.97	2.88	15.036	<.001	.140
Expressing Feelings & Desires	8.84	2.96	6.67	2.78	6.24	2.80	42.389	<.001	.315
IIS: Frequency	93.05	20.01	88.02	23.74	91.53	24.30	2.979	.062	.031
Giving Criticism	15.63	5.34	14.82	4.93	15.22	5.02	1.361	.258	.015
Expressing Opinions	16.33	4.49	15.16	4.46	15.99	4.78	3.443	.038	.036
Giving Compliments	14.33	3.46	13.38	4.36	14.25	4.39	3.048	.050	.032
Initiating Contacts	13.06	3.89	12.13	3.93	12.84	3.87	2.805	.071	.030
Positive Self-Evaluation	13.27	3.33	13.05	4.49	13.34	4.06	0.280	.742	.003
Self-Assertion	9.75	3.08	9.67	2.83	9.42	2.81	0.844	.422	.009
Expressing Feelings & Desires	10.67	2.49	9.82	3.09	10.47	3.15	4.298	.018	.045
University Adjustment	217.80	58.41	180.24	57.79	168.26	65.42	57.020	<.001	.383
Academic Adjustment	73.38	22.20	62.44	22.83	57.68	24.30	40.653	<.001	.306
Social Adjustment	76.28	28.14	60.35	24.62	57.41	27.08	47.146	<.001	.339
Personal-Emotional Adjustment	44.38	11.77	37.18	13.26	34.44	14.66	30.972	<.001	.252
Institutional Adjustment	17.99	8.51	16.62	8.46	15.40	9.43	5.893	.003	.060
Multivariate Test: Wilks' Lambda = 0.14, $F(58, 35) = 3.706$, $p < .001$, $\eta^2 = .86$									

Table 43 presents the results of a one-way repeated measures ANOVA conducted within the experimental group across three-time points, i.e., pretest (T₁), post-test (T₂), and follow-up test (T₃) for studied variables. It shows significant ($p < .05$) decreases in Fear of Negative Evaluation and Interpersonal Situation: Discomfort but improvement in Self-Esteem (indicated by lower scores on RSES) and University

Adjustment (indicated by lower scores on SACQ), except in the Interpersonal Situation: Frequency scale and its four subscales ($p > .05$) across three-time points with large effect sizes. Multivariate test results (Wilks' Lambda = 0.14, $F(58, 35) = 3.706$, $p < .001$, $\eta^2 = .86$) indicated that there was a significant and large effect of time on the studied variables within the experimental group.

Figure 12 also shows that the mean scores for fear of negative evaluation, interpersonal situations: discomfort, self-esteem, and university adjustment decrease from T_1 to T_2 and continue to decrease to T_3 . However, the mean score of the interpersonal situations: frequency shows a slight decline from T_1 to T_2 and a slight increase from T_2 to T_3 . Therefore, Figure 12 suggests that the intervention had a positive impact on reducing fear of negative evaluation and interpersonal situations: discomfort, and on improving self-esteem (indicated by a lower score on RSES) and university adjustment (indicated by a lower score on SACQ) in the experimental group over time.

Figure 12

Changes of Social Anxiety, Self-Esteem, and University Adjustment Across Three Time Points in Experimental Group

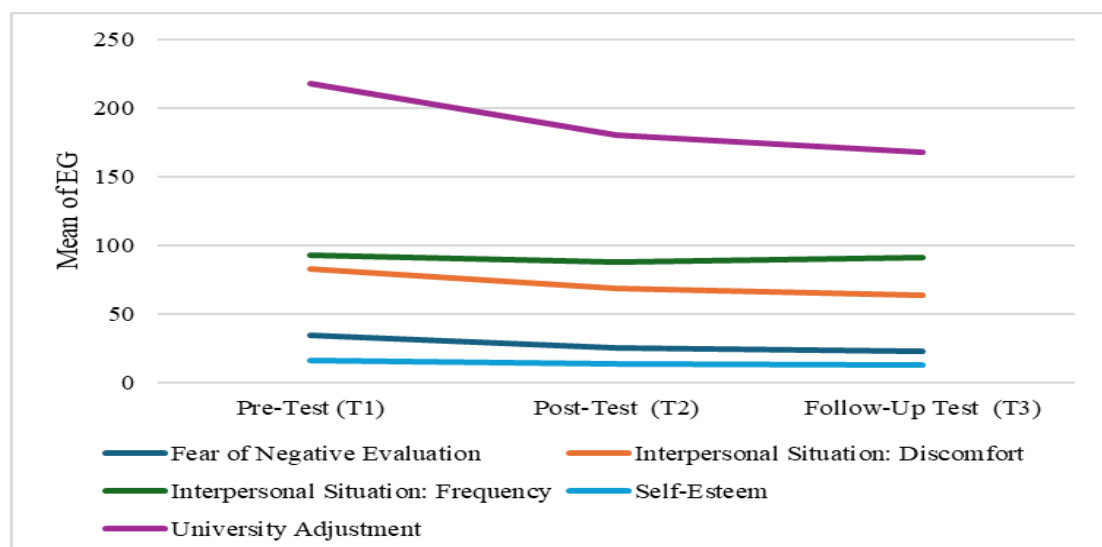


Table 44*Pairwise Comparison among Three Time Points within the Experimental Group*

Variable	Mean Difference					
	T ₁ - T ₂		T ₁ - T ₃		T ₂ - T ₃	
	<i>M</i>	Bonferroni Adjustment	<i>M</i>	Bonferroni Adjustment	<i>M</i>	Bonferroni Adjustment
Fear of Negative Evaluation	9.301*	<.001	11.720*	<.001	2.419*	.002
Self-Esteem	2.624*	<.001	3.452*	<.001	.828*	.045
Interpersonal Situation: Discomfort	14.323*	<.001	19.237*	<.001	4.914*	.026
Giving Criticism	2.022*	.001	2.914*	<.001	0.892	.204
Expressing Opinions	2.710*	<.001	3.720*	<.001	1.011*	.038
Giving Compliments	2.258*	<.001	2.903*	<.001	0.645	.221
Initiating Contacts	2.140*	<.001	2.828*	<.001	0.688	.093
Positive Self-Evaluation	1.581*	.001	2.484*	<.001	.903*	.031
Self-Assertion	1.441*	.001	1.785*	<.001	0.344	.683
Desires	2.172*	<.001	2.602*	<.001	0.430	.322
Interpersonal Situation: Frequency	5.032	.082	1.527	1.00	-3.505	.102
Giving Criticism	0.817	.324	0.419	1.00	-0.398	.918
Expressing Opinions	1.172	.052	0.344	1.00	-0.828	.099
Giving Compliments	0.957	.108	0.086	1.00	-0.871	.077
Initiating Contacts	0.935	.129	0.226	1.00	-0.710	.089
Positive Self-Evaluation	0.215	1.00	-0.075	1.00	-0.290	1.00
Self-Assertion	0.086	1.00	0.333	.773	0.247	.801
Desires	.849*	.019	0.194	1.00	-.656*	.037
University Adjustment	37.559*	<.001	49.538*	<.001	11.978*	.011
Academic Adjustment	10.935*	<.001	15.699*	<.001	4.763*	.019
Social Adjustment	15.925*	<.001	18.871*	<.001	2.946	.227
Personal-Emotional Adjustment	7.194*	<.001	9.935*	<.001	2.742	.068
Institutional Adjustment	1.366	.176	2.591*	.006	1.226	.290

**p* < .05

Table 44 provides pairwise comparisons among the three time points within the experimental group for various variables. Mean differences between the time points (T₁, T₂, T₃) are presented, along with Bonferroni-adjusted p-values. The mean difference between T₁ and T₂ in Fear of Negative Evaluation, Self-Esteem,

Interpersonal Situation: Discomfort and its subscales, and University Adjustment and its subscales (except institutional adjustment) with Bonferroni-adjusted p -values ($p < .05$) indicate that significant decreases in Fear of Negative Evaluation and Interpersonal Situation: Discomfort but improvement in Self-Esteem (indicated by lower scores on RSES) and University Adjustment (indicated by lower scores on SACQ) from T_1 to T_2 . Also, the mean difference between T_1 and T_3 in Fear of Negative Evaluation, Self-Esteem, Interpersonal Situation: Discomfort and its subscales, and University Adjustment and its subscales with Bonferroni-adjusted p -values ($p < .05$) indicate that significant decreases in Fear of Negative Evaluation and Interpersonal Situation: Discomfort but improvement in Self-Esteem (indicated by lower scores on RSES) and University Adjustment (indicated by lower scores on SACQ) from T_1 to T_3 .

But the mean difference between T_2 and T_3 in Fear of Negative Evaluation, Self-Esteem, Interpersonal Situation: Discomfort and its subscales (expressing opinions and positive self-evaluation), and University Adjustment and its subscale (only academic adjustment) with Bonferroni-adjusted p -values ($p < .05$) indicate that significant decreases in Fear of Negative Evaluation and Interpersonal Situation: Discomfort but improvement in Self-Esteem (indicated by lower scores on RSES) and University Adjustment (indicated by lower scores on SACQ) from T_2 to T_3 .

Table 45 presents the results of a one-way repeated measures ANOVA conducted within the waitlist control group across the four-time points, i.e., pretest (T_1), post-wait test (T_2), post-test (T_3), and follow-up test (T_4) for studied variables. It shows significant ($p < .05$) decreases in Fear of Negative Evaluation and Interpersonal Situation: Discomfort but improvement in Self-Esteem (indicated by lower scores on RSES) and University Adjustment (indicated by lower scores on SACQ), except in

the Interpersonal Situation: Frequency scale and its seven subscales ($p > .05$) across four-time points with large effect sizes. Multivariate test results (Wilks' Lambda = 0.336, $F(87, 617.258) = 3.1166$, $p < .001$, $\eta^2 = .304$) indicated that there was a significant and large effect of time on the studied variables within the waitlist control group.

Figure 13

Changes of Social Anxiety, Self-Esteem, and University Adjustment Across Four Time Points in the Waitlist Control Group

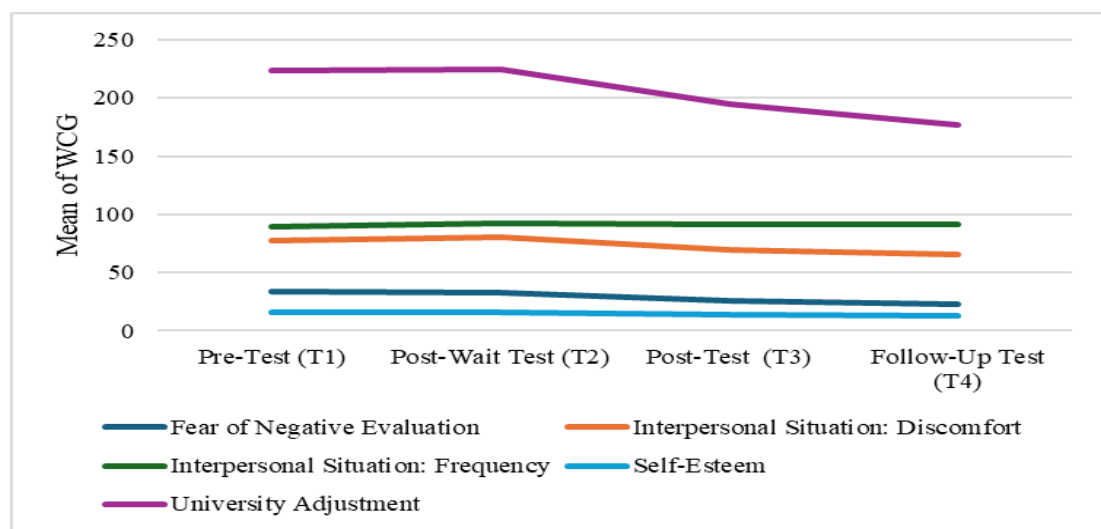


Figure 13 also shows that the mean scores for fear of negative evaluation, interpersonal situations: discomfort, self-esteem, and university adjustment remain stable from T_1 to T_2 but shows noticeable decreases from T_2 and continue to decline significantly to T_4 . However, the mean score of the interpersonal situations: frequency (grremains fairly stable across all four-time points, with a slight decrease from T_2 to T_3 but a slight increase from T_3 to T_4 . Therefore, Figure 13 shows the changes become more apparent after the SST intervention period (post-wait test), suggesting that the intervention had positive impact on these constructs. Interpersonal situation discomfort showed slight decrease, while the interpersonal situation frequency remained relatively unchanged.

Table 45

Univariate and Multivariate Analysis from One-Way Repeated Measures ANOVA within Waitlist Control Group

Variable	Pre-Test (T ₁)		Post-Wait Test (T ₂)		Post-Test (T ₃)		Follow-Up Test (T ₄)		Univariate Effect of SST		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>	η^2
Fear of Negative Evaluation	33.51	9.939	32.73	10.457	26.03	9.119	23.03	8.356	60.650	<.001	.437
Self-Esteem	15.58	3.418	15.51	3.562	13.76	3.797	12.75	3.937	27.773	<.001	.263
Interpersonal Situation: Discomfort	77.68	18.800	80.49	21.434	69.99	18.005	65.20	19.692	21.062	<.001	.213
Giving Criticism	14.82	5.592	15.47	5.590	13.63	4.306	13.00	4.597	8.715	<.001	.100
Expressing Opinions	14.66	4.423	14.76	4.724	12.54	4.417	11.44	4.329	21.385	<.001	.215
Giving Compliments	9.39	4.220	9.75	4.468	8.44	3.748	8.01	3.730	5.832	.003	.070
Initiating Contacts	11.38	4.583	12.29	4.291	10.44	3.751	9.90	3.983	10.572	<.001	.119
Positive Self-Evaluation	10.00	3.883	10.37	3.797	9.15	3.599	8.46	3.437	8.793	<.001	.101
Self-Assertion	8.96	3.345	9.2658	2.93393	8.62	2.756	8.04	2.968	4.884	.004	.059
Expressing Feelings & Desires	8.47	2.485	8.5949	2.83982	7.15	2.602	6.35	2.646	22.025	<.001	.220
Interpersonal Situation: Frequency	89.58	19.035	92.46	20.165	90.96	21.736	91.44	25.976	0.598	.577	.008
Giving Criticism	14.59	4.705	15.70	4.775	15.15	4.616	14.52	5.091	2.444	.078	.030
Expressing Opinions	16.29	3.870	16.29	4.294	15.90	4.581	16.00	5.316	0.311	.770	.004
Giving Compliments	13.30	4.049	13.41	3.831	13.81	3.863	14.08	4.814	1.068	.356	.014
Initiating Contacts	12.32	4.238	13.27	3.973	12.89	3.994	13.13	4.256	1.649	.187	.021
Positive Self-Evaluation	13.05	3.434	13.13	3.649	13.32	3.744	13.61	4.033	0.783	.483	.010
Self-Assertion	9.77	2.731	10.10	2.863	9.84	2.835	9.67	3.120	0.690	.534	.009
Expressing Feelings & Desires	10.25	2.519	10.57	2.484	10.06	2.667	10.44	2.986	0.968	.400	.012

Table 46 provides pairwise comparisons among the four-time points within the waitlist control group for various variables. The mean difference between T_1 and T_2 in Fear of Negative Evaluation, Self-Esteem, Interpersonal Situation: Discomfort & Frequency and University Adjustment were not significant (Bonferroni-adjusted $p > .05$) But, since waitlist control group also received SST, the mean difference between T_1 and T_3 , between T_1 and T_4 , between T_2 and T_3 , and between T_2 and T_4 in Fear of Negative Evaluation, Self-Esteem, Interpersonal Situation: Discomfort (except Frequency scale and its subscales), and University Adjustment and its subscales with Bonferroni-adjusted p-values ($p < .05$) indicate that significant decreases in Fear of Negative Evaluation and Interpersonal Situation: Discomfort but improvement in Self-Esteem (indicated by lower scores on RSES) and University Adjustment (indicated by lower scores on SACQ) from T_1 to T_3 , T_1 to T_4 , and T_2 to T_3 respectively.

But the mean difference between T_3 and T_4 in Fear of Negative Evaluation, Self-Esteem, and University Adjustment and its subscale except in Interpersonal Situation: Discomfort and Frequency with Bonferroni-adjusted p-values ($p < .05$) indicate that significant decreases in Fear of Negative Evaluation but improvement in Self-Esteem (indicated by lower scores on RSES) and University Adjustment (indicated by lower scores on SACQ) from T_3 to T_4 .

Table 46

Pairwise Comparison among Four Time Points within Waitlist Control Group

Variable	Mean Difference											
	T ₁ - T ₂		T ₁ - T ₃		T ₁ - T ₄		T ₂ - T ₃		T ₂ - T ₄		T ₃ - T ₄	
	M	Bonferroni Adjustment	M	Bonferroni Adjustment	M	Bonferroni Adjustment	M	Bonferroni Adjustment	M	Bonferroni Adjustment	M	Bonferroni Adjustment
Fear of Negative Evaluation	0.772	1.000	7.481*	<.001	10.481*	<.001	6.709*	<.001	9.709*	<.001	3.000*	<.001
Self-Esteem	0.076	1.000	1.823*	<.001	2.835*	<.001	1.747*	<.001	2.759*	<.001	1.013*	.018
Interpersonal Situation: Discomfort	-2.810	.706	7.696*	.001	12.481*	<.001	10.506*	<.001	15.291*	<.001	4.785*	.028
Giving Criticism	-0.646	1.000	1.190	.159	1.823*	.013	1.835*	.008	2.468*	.001	0.633	.780
Expressing Opinions	-0.101	1.000	2.114*	<.001	3.215*	<.001	2.215*	<.001	3.316*	<.001	1.101	.099
Giving Compliments	-0.354	1.000	0.949	.460	1.380	.118	1.304*	.029	1.734*	.005	0.430	1.000
Initiating Contacts	-0.911	.247	0.937	.420	1.481*	.040	1.848*	.001	2.392*	<.001	0.544	.531
Positive Self-Evaluation	-0.367	1.000	0.848	.370	1.544*	.003	1.215*	.045	1.911*	<.001	0.696	.315
Self-Assertion	-0.304	1.000	0.342	1.000	0.924	.093	0.646	.359	1.228*	.006	0.582	.290
Expressing Feelings & Desires	-0.127	1.000	1.316*	.001	2.114*	<.001	1.443*	<.001	2.241*	<.001	.797*	.014
Interpersonal Situation: Frequency	-2.873	.910	-1.380	1.000	-1.861	1.000	1.494	1.000	1.013	1.000	-0.481	1.000
Giving Criticism	-1.101*	.048	-0.557	1.000	0.076	1.000	0.544	1.000	1.177	.233	0.633	1.000
Expressing Opinions	0.000	1.000	0.392	1.000	0.291	1.000	0.392	1.000	0.291	1.000	-0.101	1.000
Giving Compliments	-0.101	1.000	-0.506	1.000	-0.772	1.000	-0.405	1.000	-0.671	1.000	-0.266	1.000
Initiating Contacts	-0.949	.247	-0.570	1.000	-0.810	.725	0.380	1.000	0.139	1.000	-0.241	1.000
Positive Self-Evaluation	-0.076	1.000	-0.266	1.000	-0.557	1.000	-0.190	1.000	-0.481	1.000	-0.291	1.000
Self-Assertion	-0.329	1.000	-0.063	1.000	0.101	1.000	0.266	1.000	0.430	1.000	0.165	1.000
Expressing Feelings & Desires	-0.316	1.000	0.190	1.000	-0.190	1.000	0.506	0.437	0.127	1.000	-0.380	.969

Variable	Mean Difference											
	T ₁ - T ₂		T ₁ - T ₃		T ₁ - T ₄		T ₂ - T ₃		T ₂ - T ₄		T ₃ - T ₄	
	<i>M</i>	Bonferroni Adjustment	<i>M</i>	Bonferroni Adjustment	<i>M</i>	Bonferroni Adjustment	<i>M</i>	Bonferroni Adjustment	<i>M</i>	Bonferroni Adjustment	<i>M</i>	Bonferroni Adjustment
University Adjustment	-1.253	1.000	28.620*	<.001	46.759*	<.001	29.873*	<.001	48.013*	<.001	18.139*	.004
Academic Adjustment	-0.924	1.000	6.671*	.008	12.646*	<.001	7.595*	.001	13.570*	<.001	5.975*	.006
Social Adjustment	-0.671	1.000	11.468*	<.001	18.443*	<.001	12.139*	<.001	19.114*	<.001	6.975*	.009
Personal-Emotional Adjustment	0.342	1.000	6.658*	<.001	10.519*	<.001	6.316*	<.001	10.177*	<.001	3.861*	.033
Institutional Adjustment	-0.291	1.000	2.861*	.009	2.937*	.041	3.152*	.002	3.228*	.011	0.076	1.000

3.3 Interaction Effect of Group (EG and WCG) and Time Points (Pretest and Post-test)

Table 47

Univariate Effect of Group, Time, and Interaction from Repeated Measures MANOVA

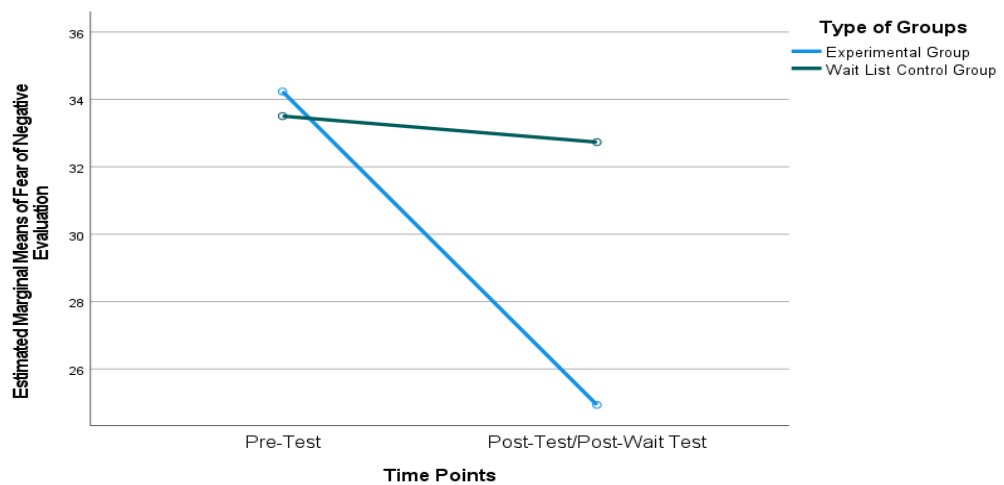
Variable	Effect of Group (EG & WCG)			Effect of Time (Pretest & Post-test)			Effect of Interaction		
	<i>F</i> (1, 170)	<i>p</i>	η^2	<i>F</i> (1, 170)	<i>p</i>	η^2	<i>F</i> (1, 170)	<i>p</i>	η^2
Fear of Negative Evaluation	8.562	.004	0.048	58.167	<.001	0.255	41.699	<.001	0.197
Self-Esteem	3.267	.072	0.019	34.201	<.001	0.167	30.460	<.001	0.152
Interpersonal Situation: Discomfort	1.282	.259	0.007	14.751	<.001	0.080	32.668	<.001	0.161
Giving Criticism	0.172	.679	0.001	3.308	.071	0.019	12.429	.001	0.068
Expressing Opinions	2.414	.122	0.014	14.099	<.001	0.077	16.373	<.001	0.088
Giving Compliments	0.003	.956	0.000	9.916	.002	0.055	18.675	<.001	0.099
Initiating Contacts	1.826	.178	0.011	4.111	.044	0.024	25.362	<.001	0.130
Positive Self-Evaluation	0.482	.488	0.003	5.009	.027	0.029	12.903	<.001	0.071
Self-Assertion	0.036	.850	0.000	5.630	.019	0.032	13.254	<.001	0.072
Expressing Feelings and Desires	4.599	.033	0.026	21.336	<.001	0.112	26.944	<.001	0.137
Interpersonal Situation: Frequency	0.029	.864	0.000	0.502	.480	0.003	6.729	.010	0.038
Giving Criticism	0.014	.907	0.000	0.184	.668	0.001	8.412	.004	0.047
Expressing Opinions	0.939	.334	0.005	2.894	.091	0.017	2.894	.091	0.017
Giving Compliments	0.955	.330	0.006	1.814	.180	0.011	2.775	.098	0.016
Initiating Contacts	0.140	.709	0.001	0.000	.983	0.000	8.421	.004	0.047
Positive Self-Evaluation	0.021	.885	0.000	0.059	.808	0.000	0.258	.612	0.002
Self-Assertion	0.336	.563	0.002	0.354	.552	0.002	1.034	.311	0.006
Expressing Feelings and Desires	0.242	.624	0.001	1.470	.227	0.009	7.036	.009	0.040
University Adjustment	10.853	.001	0.060	34.322	<.001	0.168	39.225	<.001	0.187
Academic Adjustment	8.916	.003	0.050	18.515	<.001	0.098	25.982	<.001	0.133
Social Adjustment	8.077	.005	0.045	27.791	<.001	0.141	32.895	<.001	0.162
Personal-Emotional Adjustment	5.158	.024	0.029	20.303	<.001	0.107	16.787	<.001	0.090
Institutional Adjustment	2.932	.089	0.017	1.073	.302	0.006	2.551	.112	0.015

Table 47 presents the results of repeated measures MANOVA (Multivariate Analysis of Variance) analysing the effects of group (EG and WCG), time (Pretest

and Post-test), and their interaction on various studied variables. For the variable “Fear of Negative Evaluation”, there were significant effects of group ($p = .004$), time ($p < .001$), and their interaction ($p < .001$). These results suggest that there were statistically significant differences between the experimental and waitlist control groups and between pretest and post-test scores regarding the fear of negative evaluation. The effect of the group has a small effect size ($\eta^2 = .048$), indicating that 4.8% of the variance in fear of negative evaluation can be explained by group membership. The effect of time has a large effect size ($\eta^2 = .255$), indicating that 25.5% of the variance in fear of negative evaluation can be explained by time.

Also, the significant interaction effect suggests that the effect of the group varies across different time points or vice versa in the fear of negative evaluation. It means that the experimental group (compared to waitlist control group) shows a significant reduction in the fear of negative evaluation from the pretest to post-test, suggesting that the intervention had a strong positive impact on reducing social anxiety. The interaction effect has a large effect size ($\eta^2 = .197$) indicating that 19.7% of the variance in the fear of negative evaluation can be explained by the interaction between group and time.

Figure 14 shows that the experimental group (blue line) shows a significant reduction in the fear of negative evaluation from the pretest to post-test, suggesting that the intervention had a strong positive effect on reducing social anxiety. The waitlist control group (green line) shows a marginal reduction in fear of negative evaluation, indicating little or no effect without the SST intervention. The steep decline in the blue line compared to the gentle slope of the green line visually emphasizes the effectiveness of the intervention for the experimental group in reducing fear of negative evaluation.

Figure 14*Interaction Effect of Group and Time in Fear of Negative Evaluation*

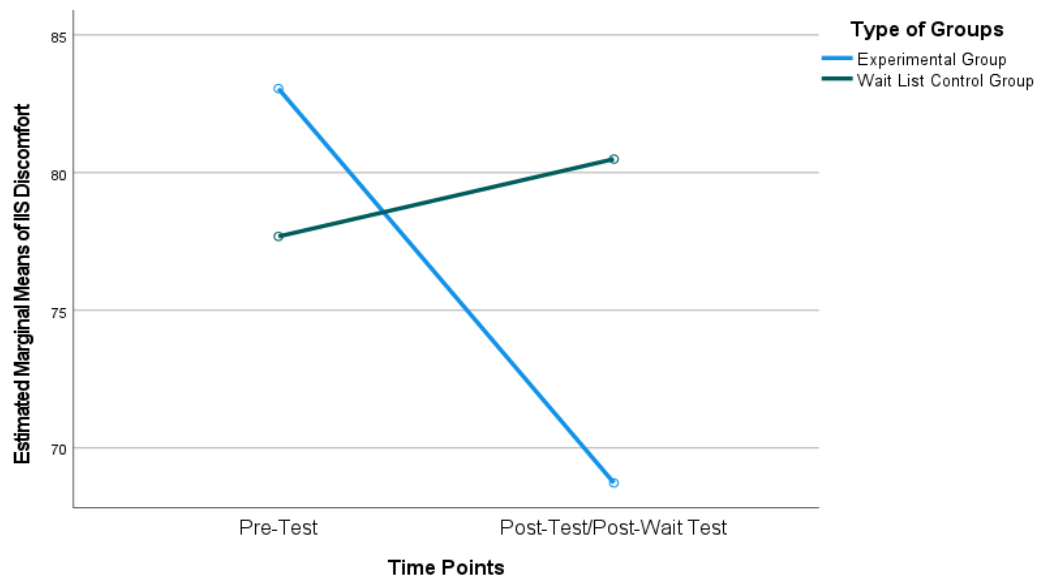
For the variable “Interpersonal Situation: Discomfort and its subscales”, there were insignificant effects of group ($p > .05$), but significant effects of time ($p < .05$), and their interaction ($p < .05$). It suggests that there was a statistically significant difference between pretest and post-test scores regarding self-esteem. The effect of time has a moderate effect size ($\eta^2 = .08$), indicating that 8 % of the variance in interpersonal situation: discomfort can be explained by time. Also, the significant interaction effect suggests that the effect of the group varies across different time points or vice versa in interpersonal situations: discomfort. It means that the experimental group (compared to waitlist control group) shows a significant reduction in interpersonal situations (discomfort) from the pretest to post-test, suggesting that the intervention had a strong positive impact on reducing social anxiety in interpersonal situations (discomfort). The interaction effect has a large effect size ($\eta^2 = .161$), indicating that 16.1% of the variance in interpersonal situation: discomfort can be explained by the interaction between group and time.

Figure 15 shows that the experimental group (blue line) shows a significant reduction in IIS Discomfort from the pretest to post-test, suggesting that the

intervention had a strong positive effect on reducing social anxiety in interpersonal situations (discomfort). The waitlist control group (green line) shows a marginal increase in IIS Discomfort, indicating no positive effect (slightly worsened) over the same period without the SST intervention. The steep decline in the blue line compared to the green line visually emphasizes the effectiveness of the intervention for the experimental group in reducing social anxiety in interpersonal situations (discomfort).

Figure 15

Interaction Effect of Group and Time in IIS Discomfort



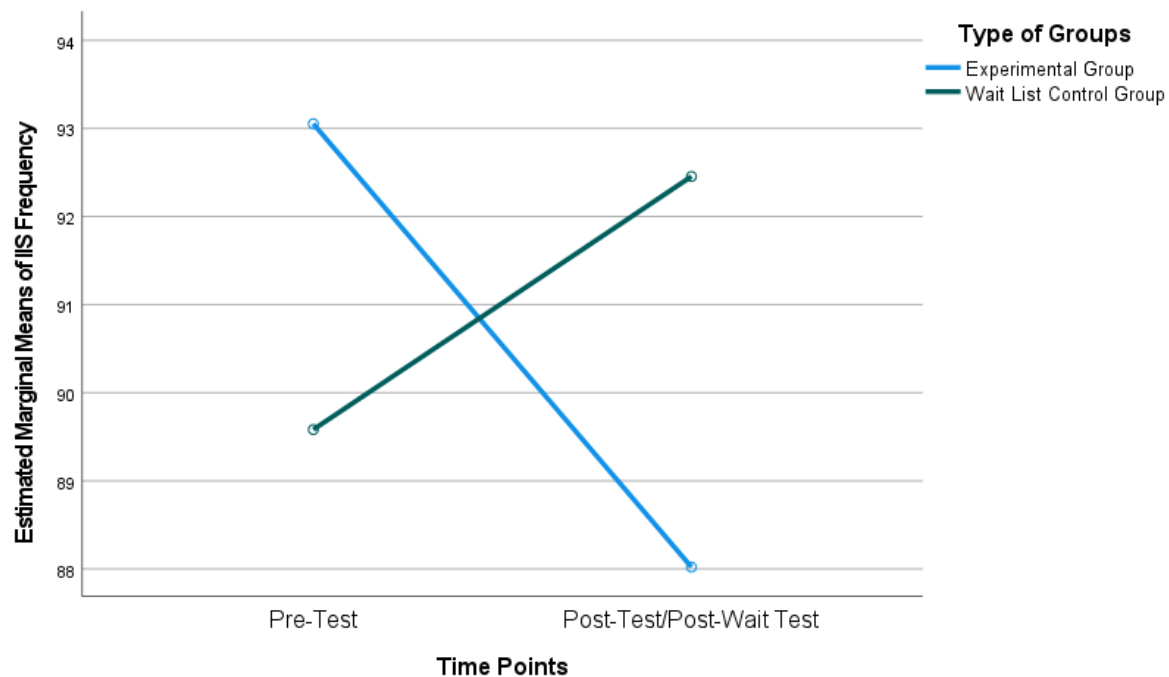
For the variable “Interpersonal Situation: Frequency and its subscales”, there were insignificant effects of group ($p > .05$) and time ($p > .05$), but significant effects of their interaction ($p < .05$). It suggests that the effect of the group varies across different time points or vice versa in the interpersonal situation: frequency. It means that the experimental group (compared to waitlist control group) shows a significant reduction in interpersonal situations (frequency) from the pretest to post-test, suggesting that the intervention had a strong positive impact on reducing social

anxiety in interpersonal situations (frequency). The interaction effect has a small effect size ($\eta^2 = .038$), indicating that 3.8% of the variance in interpersonal situation: frequency can be explained by the interaction between group and time.

Figure 16 shows that the experimental group (blue line) shows a significant reduction in IIS Frequency from the pretest to post-test, suggesting that the intervention had a strong positive effect on reducing social anxiety in interpersonal situations (frequency). The waitlist control group (green line) shows an increase in IIS Frequency, indicating no positive effect (worsened) over the same period without the SST intervention. The steep decline in the blue line compared to the green line visually emphasizes the effectiveness of the intervention for the experimental group in reducing social anxiety in interpersonal situations (frequency).

Figure 16

Interaction Effect of Group and Time in IIS Discomfort



For the variable “Self-Esteem”, there were insignificant effects of group ($p = .072$), but significant effects of time ($p < .001$), and their interaction ($p < .001$). It suggests that there was a statistically significant difference between pretest and post-test scores regarding self-esteem. The effect of time has a large effect size ($\eta^2 = .167$), indicating that 16.7 % of the variance in self-esteem can be explained by time. Also, the significant interaction effect suggests that the effect of the group varies across different time points or vice versa in self-esteem. It means that the experimental group (compared to the waitlist control group) shows a significant improvement in self-esteem (indicated by lower scores on RSES) from the pretest to post-test, suggesting that the intervention had a strong positive impact on improving self-esteem. The interaction effect has a large effect size ($\eta^2 = .152$), indicating that 15.2% of the variance in self-esteem can be explained by the interaction between group and time.

Figure 17

Interaction Effect of Group and Time in Self-Esteem

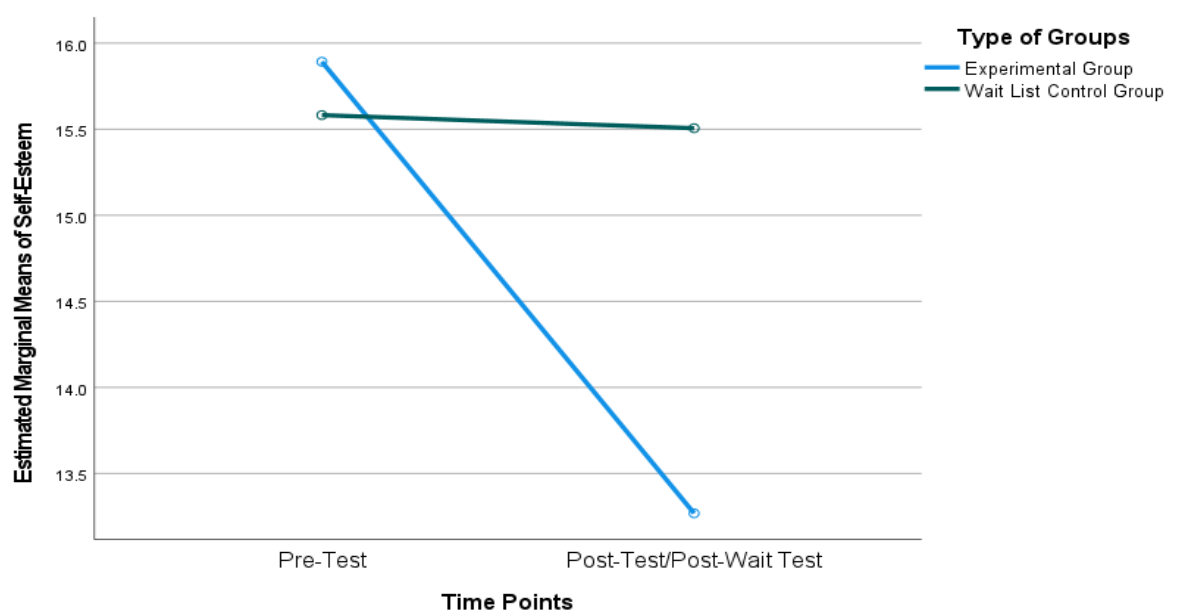


Figure 17 shows that the experimental group (blue line) shows a significant decrease in the self-esteem (indicated by lower scores on RSES) from the pretest to post-test, suggesting that the intervention had a strong positive effect on improving self-esteem. The waitlist control group (green line) shows a marginal reduction in self-esteem, indicating little or no effect without the SST intervention. The steep decline in the blue line compared to the gentle slope of the green line visually emphasizes the effectiveness of the intervention for the experimental group in improving self-esteem.

For the variable “University Adjustment and its three subscales”, there were significant effects of group ($p < .05$), time ($p < .001$), and their interaction ($p < .001$). These results suggest that there were statistically significant differences between the experimental and waitlist control groups and between pretest and post-test scores regarding university adjustment (also see Figure 18). The effect of group has a moderate effect size ($\eta^2 = .06$), indicating that 6% of the variance in university adjustment can be explained by group membership. The effect of time has a large effect size ($\eta^2 = .168$), indicating that 16.8% of the variance in university adjustment can be explained by time. Also, the significant interaction effect suggests that the effect of the group varies across different time points or vice versa in university adjustment. It means that the experimental group (compared to the waitlist control group) shows a significant improvement in university adjustment (indicated by lower scores on SACQ) from the pretest to post-test, suggesting that the intervention had a strong positive effect on improving university adjustment. The interaction effect has a large effect size ($\eta^2 = .187$), indicating that 18.7% of the variance in university adjustment can be explained by the interaction between group and time.

Figure 18

Interaction Effect of Group and Time in University Adjustment

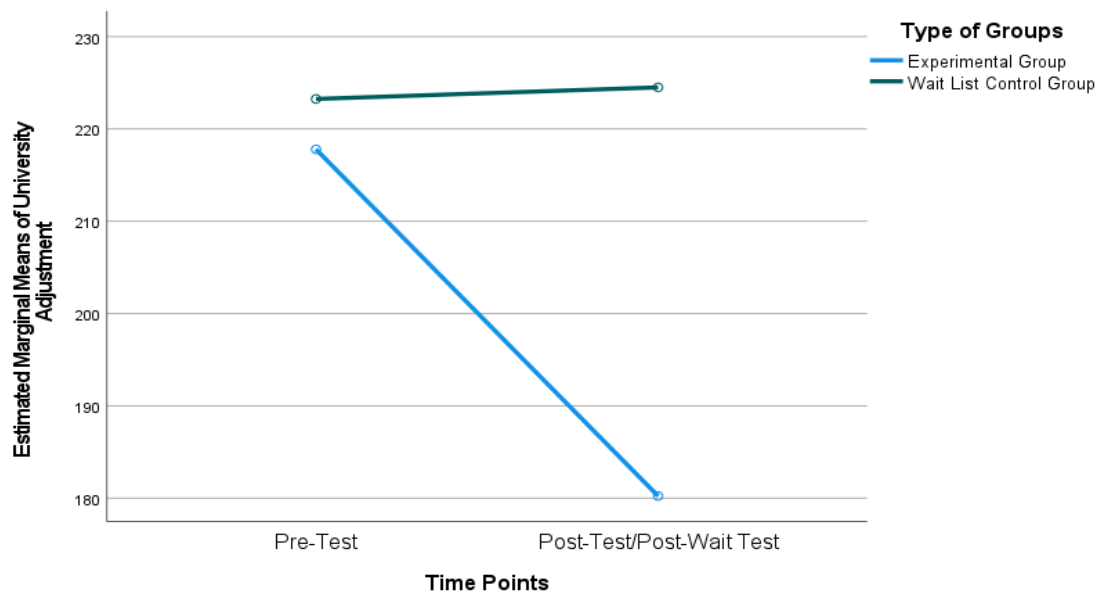


Figure 18 shows that the experimental group (blue line) shows a significant reduction in university adjustment (indicated by lower scores on SACQ) from the pretest to post-test, suggesting that the intervention had a strong positive effect on better adjustment at the university level. The waitlist control group (green line) shows a marginal increase in university adjustment, indicating no positive effect (slightly worsened) over the same period without the SST intervention. The steep decline in the blue line compared to the green line visually emphasizes the effectiveness of the intervention for the experimental group in improving the adjustment of the students at the university level.

Table 48 shows the results of repeated measures of MANOVA analyzing the multivariate effects of group, time, and their interaction on the overall set of variables. Wilks' Lambda is a multivariate test statistic that measures the proportion of variance

in the dependent variables not accounted for by the independent variables. A smaller value of Wilks' Lambda indicates a stronger effect.

Table 48

Multivariate Effect of Group, Time, and Interaction from Repeated Measures MANOVA

Source of Effect	Wilks' Lambda	<i>F</i>	Hypothesis <i>df</i>	Error <i>df</i>	<i>p</i>	η^2
Intercept	.015	314.716	29.000	142.000	<.001	0.985
Group	.789	1.313	29.000	142.000	.151	0.211
Time	.529	4.357	29.000	142.000	<.001	0.471
Interaction	.607	3.173	29.000	142.000	<.001	0.393

Overall or intercept effect (Wilks' Lambda = .015, $p < .001$) was significant, indicating that there were significant differences in the dependent variables across the levels of the independent variables (group, time, and their interaction) with a large effect size. The group effect (Wilks' Lambda = .789, $p = .151$) is not statistically significant, suggesting that there was no significant difference in the overall pattern of responses between the experimental and waitlist control groups across the dependent variables. The time effect (Wilks' Lambda = .529, $p < .001$) is statistically significant, indicating that there were significant differences in the overall pattern of responses across time points (pretest and post-test) with a large effect size. The interaction effect (Wilks' Lambda = .607, $p < .001$) is statistically significant, suggesting that the effect of group varies across different time points or vice versa with a large effect size.

3.4 Group-Wise Mediation Effect of Self-Esteem

To see the mediation effect according to group (EG and WCG) and conduct a multi-group analysis (MGA), a MICOM (Measurement Invariance of Composites)

procedure was carried out to check that the differences between both groups are not due to the content of the measurement models or the structural model (Henseler et al., 2016). In other words, MICOM analysis assesses the invariance of composite scores across different groups, ensuring that the measurement properties of the composites are consistent across groups. According to Henseler et al. (2016), MICOM measures invariance in the data using three steps, which are shown in Figure 6. These steps are configural invariance, compositional invariance, and the equality of composite mean values and variances. First, in terms of configural invariance, it was established because both models (the experimental and waitlist control groups) use the same algorithm setting, the same data handling, and the same indicators.

Secondly, step 2 of the MICOM procedure shows compositional invariance since most of the correlation values (except for university adjustment) were above the 5% quantile and the p -values were higher than .05. Table 49 represents the results of the measurement invariance of composites (MICOM) analysis conducted in the experimental and waitlist control groups. Thirdly and finally, the equality of composite mean values (step 3a) and variances (step 3b) should be evaluated. Table 49 shows the mean original differences between experimental and waitlist control groups were not between the confidence intervals and the p -values were higher than .05 in the case of the Fear of Negative Evaluation, Interpersonal Situation: Discomfort and Frequency, Self-Esteem, and University Adjustment. Further, the variance original differences for both groups ranged between the confidence intervals and the p -values were higher than .05 in the case of the Interpersonal Situation: Discomfort and Frequency, and Self-Esteem (except for Fear of Negative Evaluation and University Adjustment). Thus, according to the guidelines, the results of MICOM established partial measurement invariance for Fear of Negative Evaluation,

Interpersonal Situation: Discomfort and Frequency, and Self-Esteem and no measurement invariance for University Adjustment.

Overall, the MICOM results suggest that the measurement properties of most composites were similar across the experimental and waitlist control groups, but there were differences in composite scores and variances between groups for the “University Adjustment” construct. Upon establishing partial measurement invariance using MICOM, multi-group analysis (MGA) between experimental and waitlist control groups is possible.

Once the MICOM analysis had been completed, multi-group analysis (MGA) based on permutations and the PLS-MGA was carried out to compare the relationship between predictor variables and endogenous constructs in the experimental and waitlist control groups. The analysis aims to determine if these relationships differ significantly between the two groups, like other regression-based models. The sample was divided into two groups for the MGA: the experimental group ($n = 93$) and the waitlist control group ($n = 79$). Through bootstrapping, this method assesses the path coefficients between two groups directly, to demonstrate significant differences in the path coefficient, the p-value of variances between path coefficients must be less than .05 (Hair et al., 2013).

Table 49*Measurement Invariance of Composites (MICOM) Analysis in Experimental and Waitlist Control Groups*

Composite	Compositional Invariance			Composite Equality								Measurement Invariance
				Mean				Variance				
	Original <i>r</i>	5% Quantile	<i>p</i>	Original Difference	5%	95%	<i>p</i>	Original Difference	5%	95%	<i>p</i>	
Fear of Negative Evaluation	.997	.995	.165	-0.831	-0.245	0.262	<.001	-0.806	-0.28	0.30	<.001	Partial
Interpersonal Situation: Discomfort	.995	.956	.629	-0.548	-0.237	0.249	<.001	-0.038	-0.34	0.32	.413	Partial
Interpersonal Situation: Frequency	.800	.009	.492	-0.289	-0.264	0.241	.038	0.106	-0.28	0.31	.290	Partial
Self-Esteem	.993	.990	.114	-0.566	-0.254	0.244	<.001	0.205	-0.29	0.30	.149	Partial
University Adjustment	.989	.992	.015	-0.758	-0.268	0.243	<.001	0.380	-0.30	0.34	.033	No

Table 50 depicts the *p-value* differences between the experimental and waitlist control groups. For “fear of negative evaluation” predicting “self-esteem”, the relationship was significant ($p < .001$) both in the experimental group and waitlist control group. For “interpersonal situation: discomfort” and “interpersonal situation: frequency” predicting “self-esteem”, the relationships were insignificant ($p > .05$) both in the experimental group and waitlist control group. Thus, there were no significant group differences in the relationship between predictor variables (fear of negative evaluation, interpersonal situation: discomfort, and interpersonal situation: frequency) and endogenous variable (self-esteem) between the experimental and waitlist control groups. On the other hand, for “fear of negative evaluation” and “interpersonal situation: discomfort” predicting “university adjustment”, the relationships were significant ($p < .05$) in the experimental group but insignificant ($p > .05$) in the waitlist control group.

For “interpersonal situation: frequency” predicting “university adjustment”, the relationship was insignificant ($p > .05$) both in the experimental and waitlist control groups. And for “self-esteem” predicting “university adjustment”, the relationship was significant ($p < .001$) both in the experimental and waitlist control groups. Therefore, there were significant group differences in the relationship between predictor variables (fear of negative evaluation and interpersonal situation: discomfort) and endogenous variable (university adjustment) between the experimental and waitlist control groups; but insignificant group differences in the relationship between predictor variables (interpersonal situation: frequency and self-esteem) and endogenous variable (university adjustment) between the two groups.

Table 50*Multi-Group Analysis (MGA) Between Experimental and Waitlist Control Groups*

Predictor	Endogenous Construct	Experimental Group					Waitlist-Control Group					Group Difference
		β	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>	β	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>	
Fear of Negative Evaluation	Self-Esteem	0.707	0.707	0.072	9.758	<.001	0.558	0.549	0.126	4.433	<.001	No
Interpersonal Situation: Discomfort		-0.161	-0.143	0.091	1.764	.078	0.03	0.055	0.128	0.238	.812	No
Interpersonal Situation: Frequency		0.15	0.081	0.137	1.097	.273	0.015	-0.022	0.181	0.082	.935	No
Fear of Negative Evaluation	University Adjustment	0.242	0.242	0.096	2.539	.011	0.235	0.21	0.193	1.218	.223	Yes
Interpersonal Situation: Discomfort		0.205	0.222	0.079	2.583	.010	-0.101	-0.074	0.145	0.694	.488	Yes
Interpersonal Situation: Frequency		0.053	0.035	0.095	0.561	.575	-0.127	-0.143	0.177	0.718	.473	No
Self-Esteem		0.53	0.519	0.086	6.172	<.001	0.479	0.455	0.13	3.671	<.001	No

Table 51 presents the direct effects in the structural model, including path coefficient (β), bias-corrected confidence interval (BCCI), explanatory power (R^2), effect size (f^2), and predictive power (Q^2) for each predictor on the endogenous constructs in the total sample and two subsamples (experimental and waitlist control groups). In the experimental group (see Figure 19), for the endogenous construct “self-esteem”, the predictor “fear of negative evaluation” has a significant positive effect ($\beta = 0.707$, $p < .001$, BCCI: positive-positive), whereas the other two predictors have no significant effect, i.e., interpersonal situation: discomfort ($\beta = -0.161$, $p = .078$, BCCI: negative-positive) and interpersonal situation: frequency ($\beta = 0.150$, $p = .273$, BCCI: negative-positive). The R^2 value of .463 for the endogenous construct (self-esteem) refers to the moderate explanatory power and it means that 46.3% of the total variance of self-esteem can be explained by three predictors (fear of negative evaluation, interpersonal situation: discomfort, and interpersonal situation: frequency).

Figure 19

Structural Model of Variables in Experimental Group

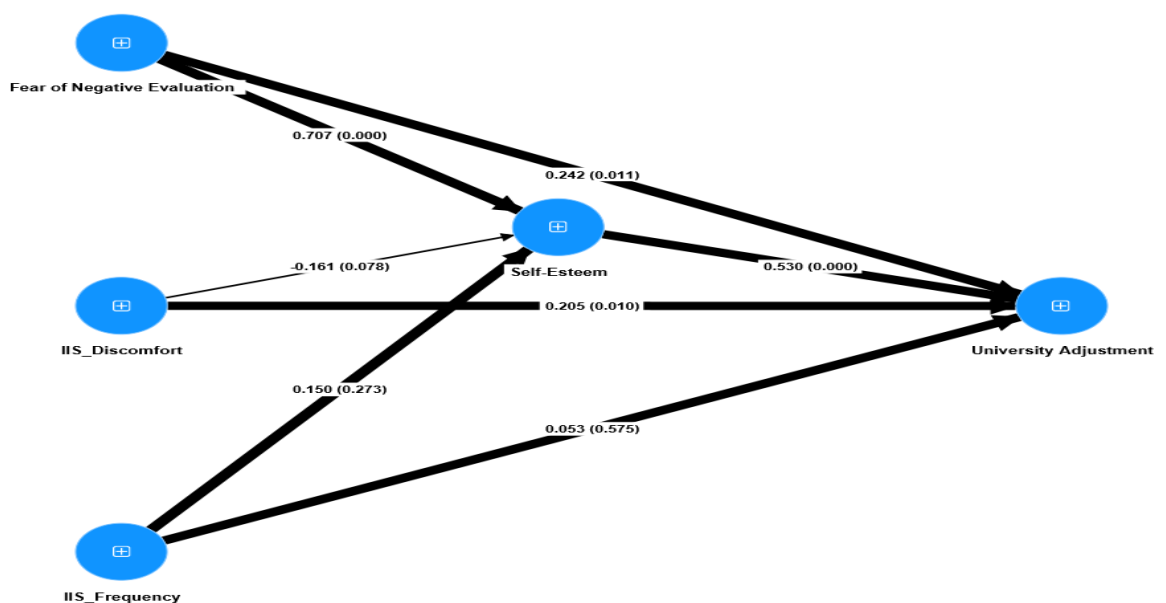
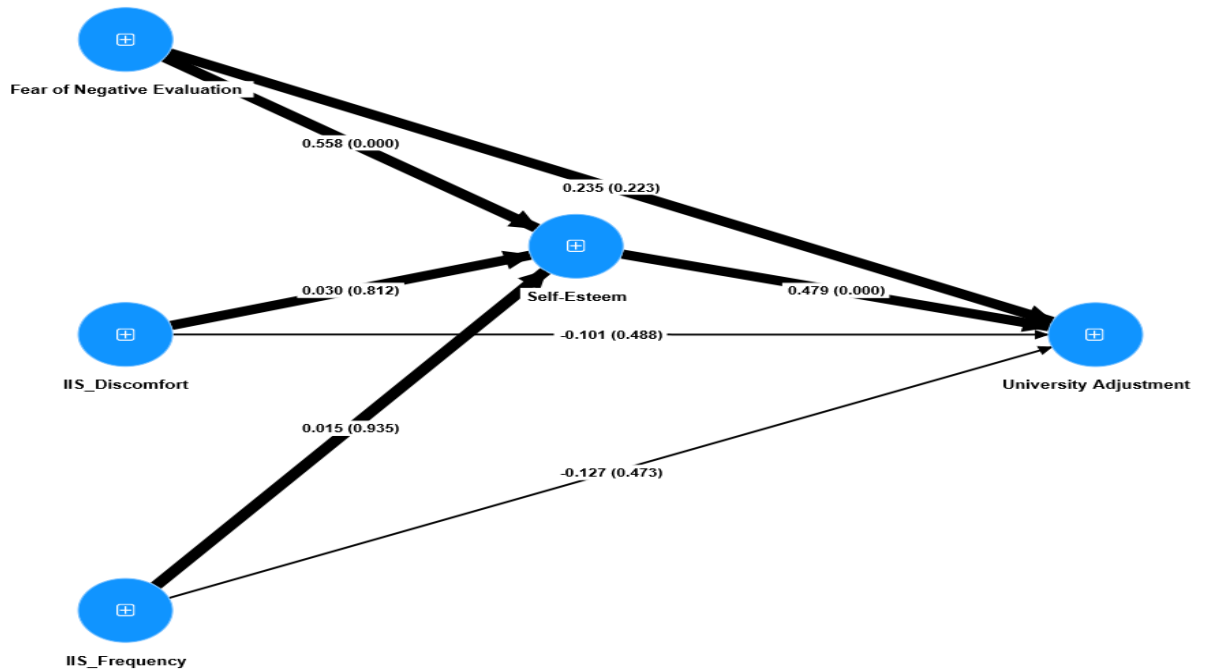
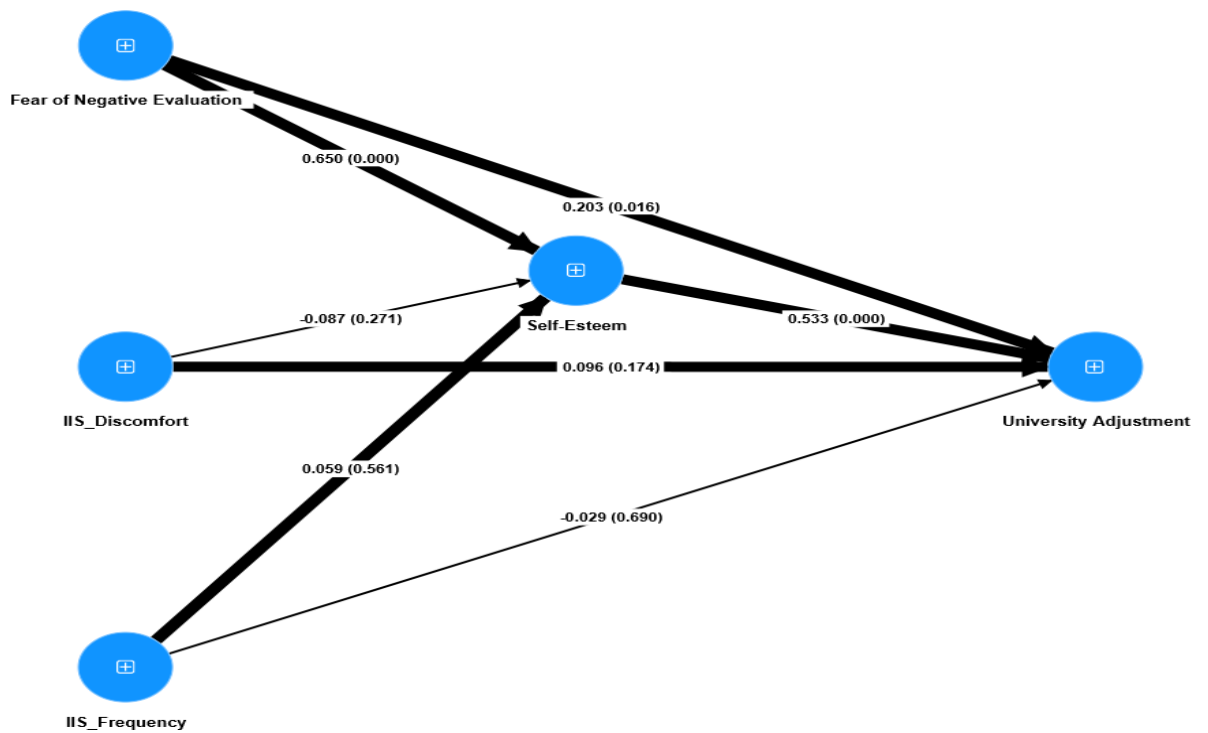


Table 51*Direct Effects in the Structural Model*

Group	Predictor	Endogenous Construct	β	M	SD	t	BCCI		p	R^2	f^2	Q^2
							Lower	Upper				
Experimental Group	Self-Esteem									.463		.368
	Fear of Negative Evaluation	0.707	0.707	0.072	9.758	0.524	0.816	<.001		.765		
	Interpersonal Situation: Discomfort	-0.161	-0.143	0.091	1.764	-0.363	0.005	.078		.039		
	Interpersonal Situation: Frequency	0.150	0.081	0.137	1.097	-0.142	0.318	.273		.041		
	University Adjustment									.644		.403
	Fear of Negative Evaluation	0.242	0.242	0.096	2.539	0.056	0.438	.011		.077		
	Interpersonal Situation: Discomfort	0.205	0.222	0.079	2.583	0.012	0.330	.010		.092		
	Interpersonal Situation: Frequency	0.053	0.035	0.095	0.561	-0.158	0.208	.575		.007		
	Self-Esteem	0.530	0.519	0.086	6.172	0.342	0.682	<.001		.424		
Waitlist Control Group	Self-Esteem									.338		.237
	Fear of Negative Evaluation	0.558	0.549	0.126	4.433	0.297	0.784	<.001		.302		
	Interpersonal Situation: Discomfort	0.030	0.055	0.128	0.238	-0.254	0.256	.812		.001		
	Interpersonal Situation: Frequency	0.015	-0.022	0.181	0.082	-0.325	0.379	.935		.000		
	University Adjustment									.340		.024
	Fear of Negative Evaluation	0.235	0.210	0.193	1.218	-0.114	0.617	.223		.041		
	Interpersonal Situation: Discomfort	-0.101	-0.074	0.145	0.694	-0.439	0.139	.488		.009		
	Interpersonal Situation: Frequency	-0.127	-0.143	0.177	0.718	-0.404	0.261	.473		.020		
	Self-Esteem	0.479	0.455	0.130	3.671	0.222	0.702	<.001		.230		
Complete	Self-Esteem									.386		.354
	Fear of Negative Evaluation	0.650	0.647	0.068	9.608	0.513	0.788	<.001		.477		
	Interpersonal Situation: Discomfort	-0.087	-0.080	0.079	1.100	-0.241	0.055	.271		.008		
	Interpersonal Situation: Frequency	0.059	0.042	0.101	0.582	-0.200	0.183	.561		.005		

Group	Predictor	Endogenous Construct	β	M	SD	t	BCCI		p	R^2	f^2	Q^2
							Lower	Upper				
Complete	University Adjustment									.509		.295
	Fear of Negative Evaluation		0.203	0.204	0.084	2.414	0.038	0.367	.016		.039	
	Interpersonal Situation: Discomfort		0.096	0.100	0.071	1.360	-0.042	0.233	.174		.012	
	Interpersonal Situation: Frequency		-0.029	-0.030	0.074	0.399	-0.192	0.088	.690		.002	
	Self-Esteem		0.533	0.524	0.069	7.752	0.388	0.657	<.001		.355	

Figure 20*Structural Model of Variables in Waitlist Control Group***Figure 21***Complete Structural Model of Variables*

The f^2 values of fear of negative evaluation (.765), interpersonal situation: discomfort (.039), and interpersonal situation: frequency (.041) indicate that fear of negative evaluation has a large effect, but interpersonal situation: discomfort and interpersonal situation: frequency have small effects on predicting self-esteem. The Blindfolding test or Q^2 value for self-esteem was .368 and it means that self-esteem has medium predictive relevance in the present PLS model.

In the experimental group, for the endogenous construct “university adjustment”, there were significant positive effects of three predictors, i.e., fear of negative evaluation ($\beta = 0.242$, $p = .011$, BCCI: positive-positive), interpersonal situation: discomfort ($\beta = 0.205$, $p = .01$, BCCI: negative-positive), and self-esteem ($\beta = 0.530$, $p < .001$, BCCI: positive-positive) whereas the other predictor has no significant effect, i.e., interpersonal situation: frequency ($\beta = 0.053$, $p = .575$, BCCI: negative-positive). The R^2 value of .644 for the endogenous construct (university adjustment) refers to the moderate explanatory power and it means that 64.4% of the total variance of university adjustment can be explained by four predictors (fear of negative evaluation, interpersonal situation: discomfort, interpersonal situation: frequency, and self-esteem). The f^2 values of fear of negative evaluation (.077), interpersonal situation: discomfort (.092), interpersonal situation: frequency (.007), and self-esteem (.424) indicate that fear of negative evaluation, interpersonal situation: discomfort, and interpersonal situation: frequency have small effects, but self-esteem has a large effect on predicting university adjustment. The Blindfolding test or Q^2 value for university adjustment was .403 and it means that university adjustment has high predictive relevance in the PLS model.

In the waitlist control group (see Figure 20), for the endogenous construct “self-esteem”, the predictor “fear of negative evaluation” has a significant positive

effect ($\beta = 0.558$, $p < .001$, BCCI: positive-positive), whereas the other two predictors have no significant effect, i.e., interpersonal situation: discomfort ($\beta = 0.030$, $p = .812$, BCCI: negative-positive) and interpersonal situation: frequency ($\beta = 0.015$, $p = .935$, BCCI: negative-positive). The R^2 value of .338 for the endogenous construct (self-esteem) refers to the small explanatory power and it means that 33.8% of the total variance of self-esteem can be explained by three predictors (fear of negative evaluation, interpersonal situation: discomfort, and interpersonal situation: frequency). The f^2 values of fear of negative evaluation (.302), interpersonal situation: discomfort (.001), and interpersonal situation: frequency (.000) indicate that fear of negative evaluation has a large effect, but interpersonal situation: discomfort and interpersonal situation: frequency have very small effects on predicting self-esteem. The Blindfolding test or Q^2 value for self-esteem was .237 and it means that self-esteem has medium predictive relevance in the present PLS model.

In the waitlist control group, for the endogenous construct “university adjustment”, there was a significant positive effect of self-esteem ($\beta = 0.479$, $p < .001$, BCCI: positive-positive), and whereas the other three predictors have no significant effects, i.e., fear of negative evaluation ($\beta = 0.235$, $p = .223$, BCCI: negative-positive), interpersonal situation: discomfort ($\beta = -0.101$, $p = .488$, BCCI: negative-positive), interpersonal situation: frequency ($\beta = -0.127$, $p = .473$, BCCI: negative-positive). The R^2 value of .340 for the endogenous construct (university adjustment) refers to the small explanatory power and it means that 34.0% of the total variance of university adjustment can be explained by four predictors (fear of negative evaluation, interpersonal situation: discomfort, interpersonal situation: frequency, and self-esteem). The f^2 values of fear of negative evaluation (.041), interpersonal situation: discomfort (.009), interpersonal situation: frequency (.020), and self-esteem (.230)

indicate that self-esteem has a moderate effect, fear of negative evaluation and interpersonal situation: frequency have small effects, but interpersonal situation: discomfort has a very small effect on predicting university adjustment. The Blindfolding test or Q^2 value for university adjustment was .024 and it means that university adjustment has small predictive relevance in the PLS model.

In the complete dataset (see Figure 21), for the endogenous construct “self-esteem”, the predictor “fear of negative evaluation” has a significant positive effect ($\beta = 0.650$, $p < .001$, BCCI: positive-positive), whereas the other two predictors have no significant effect, i.e., interpersonal situation: discomfort ($\beta = -0.087$, $p = .271$, BCCI: negative-positive) and interpersonal situation: frequency ($\beta = 0.059$, $p = .561$, BCCI: negative-positive). The R^2 value of .386 for the endogenous construct (self-esteem) refers to the small explanatory power and it means that 38.6% of the total variance of self-esteem can be explained by three predictors (fear of negative evaluation, interpersonal situation: discomfort, and interpersonal situation: frequency). The f^2 values of fear of negative evaluation (.477), interpersonal situation: discomfort (.008), and interpersonal situation: frequency (.005) indicate that fear of negative evaluation has a large effect, but interpersonal situation: discomfort and interpersonal situation: frequency have very small effects on predicting self-esteem. The Blindfolding test or Q^2 value for self-esteem was .354 and it means that self-esteem has medium predictive relevance in the present PLS model.

In the complete dataset, for the endogenous construct “university adjustment”, there were significant positive effect of fear of negative evaluation ($\beta = 0.203$, $p = .016$, BCCI: positive-positive) and self-esteem ($\beta = 0.533$, $p < .001$, BCCI: positive-positive), and whereas the other two predictors have no significant effects, i.e., interpersonal situation: discomfort ($\beta = 0.096$, $p = .174$, BCCI: negative-positive) and

interpersonal situation: frequency ($\beta = -0.029$, $p = .690$, BCCI: negative-positive). The R^2 value of .509 for the endogenous construct (university adjustment) refers to the moderate explanatory power and it means that 50.9% of the total variance of university adjustment can be explained by four predictors (fear of negative evaluation, interpersonal situation: discomfort, interpersonal situation: frequency, and self-esteem). The f^2 values of fear of negative evaluation (.039), interpersonal situation: discomfort (.012), interpersonal situation: frequency (.002), and self-esteem (.355) indicate that self-esteem has a large effect, fear of negative evaluation and interpersonal situation: discomfort have small effects, but interpersonal situation: frequency has a very small effect on predicting university adjustment. The Blindfolding test or Q^2 value for university adjustment was .295 and it means that university adjustment has small predictive relevance in the PLS model.

Table 52 shows mediation effects on self-esteem within different groups, including the experimental group, waitlist control group, and complete group. In the experimental group, for the relationship between fear of negative evaluation and university adjustment, self-esteem partially (complimentary) mediates the relationship, as indicated by significant direct effect ($\beta = 0.242$, $p = .011$, BCCI: positive-positive), significant indirect effect ($\beta = 0.375$, $p < .001$, BCCI: positive-positive), significant total effect ($\beta = 0.617$, $p < .001$, BCCI: positive-positive), and VAF equals to 60.78%. But, interpersonal situation: discomfort has only a direct effect ($\beta = 0.205$, $p = .010$, BCCI: positive-positive) on university adjustment, and interpersonal situation: frequency has no significant direct, indirect, or total effect, indicating no significant mediation by self-esteem.

In the waitlist control group, for the relationship between fear of negative evaluation and university adjustment, self-esteem fully mediates the relationship, as

indicated by insignificant direct effect ($\beta = 0.235$, $p = .223$, BCCI: negative-positive), significant indirect effect ($\beta = 0.267$, $p = .001$, BCCI: positive-positive), significant total effect ($\beta = 0.502$, $p = .005$, BCCI: positive-positive), and VAF equals to 53.19%. But, interpersonal situation: discomfort and interpersonal situation: frequency has no significant direct, indirect, or total effect, indicating no significant mediation by self-esteem.

In the complete group, for the relationship between fear of negative evaluation and university adjustment, self-esteem partially (complimentary) mediates the relationship, as indicated by significant direct effect ($\beta = 0.203$, $p = .016$, BCCI: positive-positive), significant indirect effect ($\beta = 0.346$, $p < .001$, BCCI: positive-positive), significant total effect ($\beta = 0.549$, $p < .001$, BCCI: positive-positive), and VAF equals to 63.02%. But, interpersonal situation: discomfort and interpersonal situation: frequency has no significant direct, indirect, or total effect, indicating no significant mediation by self-esteem.

Table 52

Mediation Effects of Self-Esteem

Group	Predictor	Mediator	Endogenous Construct	Direct Effect					Indirect Effect					Total Effect					VAF (%)	Interpretation
				β	t	BCCI		p	β	t	BCCI		p	β	t	BCCI		p		
						Lower	Upper				Lower	Upper				Lower	Upper			
Experimental Group	Fear of Negative Evaluation			0.242	2.539	.056	.438	.011	0.375	5.702	.266	.524	<.001	0.617	8.01	.464	.759	<.001	60.78	Complimentary Partial Mediation
	Interpersonal Situation: Discomfort	Self-Esteem	University Adjustment	0.205	2.583	.012	.330	.010	-0.085	1.642	-.229	-.004	.101	0.119	1.241	-.131	.273	.215	-71.43	No Mediation (Only Direct Effect)
	Interpersonal Situation: Frequency			0.053	0.561	-.158	.208	.575	0.08	1.127	-.058	.177	.260	0.133	0.974	-.150	.319	.330	60.15	No Mediation (No Effect)
Waitlist Control Group	Fear of Negative Evaluation			0.235	1.218	-.114	.617	.223	0.267	3.324	.153	.540	.001	0.502	2.789	.164	.800	.005	53.19	Full Mediation (Only Indirect Effect)
	Interpersonal Situation: Discomfort	Self-Esteem	University Adjustment	-0.101	0.694	-.439	.139	.488	0.015	0.239	-.106	.135	.811	-0.086	0.53	-.451	.189	.596	-17.44	No Mediation (No Effect)
	Interpersonal Situation: Frequency			-0.127	0.718	-.404	.261	.473	0.007	0.082	-.153	.197	.934	-0.12	0.518	-.462	.353	.605	-5.83	No Mediation (No Effect)

Group	Predictor	Mediator	Endogenous Construct	Direct Effect					Indirect Effect					Total Effect					VAF (%)	Interpretation
				β	t	BCCI		p	β	t	BCCI		p	β	t	BCCI		p		
						Lower	Upper				Lower	Upper				Lower	Upper			
Complete	Fear of Negative Evaluation			0.203	2.414	.038	.367	. 016	0.346	6.54	.251	.464	<. 001	0.549	7.64	.408	.687	<. 001	63.02	Complimentary Partial Mediation
	Interpersonal Situation: Discomfort	Self-Esteem	University Adjustment	0.096	1.36	-.042	.233	.174	-0.046	1.117	-.136	.026	.264	0.05	0.574	-.115	.210	.566	-92.00	No Mediation (No Effect)
	Interpersonal Situation: Frequency			-0.029	0.399	-.192	.088	.690	0.031	0.594	-.102	.102	.553	0.002	0.018	-.253	.158	.986	1550.00	No Mediation (No Effect)

Chapter 4:

Discussion

Discussion

The primary aim of this study was to investigate the effect of social skill training interventions on social anxiety, self-esteem, and university adjustment levels among university students in Bangladesh. This study utilized a quasi-experimental randomized waitlist control design, assigning participants to either the treatment or waitlist control group. The treatment group received a four-week social skill training intervention, while the control group waited for four weeks before receiving the intervention. Assessments were conducted at pretest, post-wait, post-test, and one-month follow-up for both groups to evaluate social anxiety, self-esteem, and university adjustment. The study was conducted across eight institutions, including three public universities, three private universities, and two university-affiliated colleges, between January and April 2023.

This study employed two types of measures: eligibility measure, using Severity Measure for Social Anxiety Disorder (Social Phobia)-Adult (Craske et al., 2013), and outcome measures, including the Brief Version of the Fear of Negative Evaluation (BFNE) Scale (Leary, 1983), Inventory of Interpersonal Situations (IIS) (Dam-Baggen & Kraaimaat, 1999), Bangla version (Ilyas, 2003) Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965), And Student Adaptation to College Questionnaire (SACQ) (Baker & Siryk, 1999). The English version of three outcome measuring scales (BFNE, IIS, SACQ) required translation and adaptation to Bangladeshi culture. To ensure accurate translation and cultural adaptation, the TRAPD (Translation, Review, Adjudication, Pretest, and Documentation) model developed by Survey Research Center (2011) was employed, as it addresses the limitations of traditional forward and backward translation methods.

The scales were validated by assessing their item analysis, construct reliability, construct convergent and discriminant validity.

A total of 172 university-level students, divided into experimental ($n = 93$) and waitlist control ($n = 79$) groups, meeting inclusion criteria were recruited through notices and underwent screening for social anxiety disorder. A random sampling technique was employed, with 40 eligible participants selected from each of the eight institutions and further randomly assigned to either the experimental or waitlist control group, resulting in a total of 16 groups across the institutions. Randomization was conducted using SPSS Statistics 27, and research assistants involved in the study were blinded to participant assignments. The sample (94 males and 78 females) showing balanced distribution across academic years and residential status. Most participants were Muslim (93.02%), from urban areas (60.47%), and had varying levels of social anxiety severity. The experimental and waitlist control groups were well-matched across socio-demographic variables, minimizing potential confounding factors in the study of social skill training's impact on social anxiety, self-esteem, and university adjustment.

The social skill training program comprised eight group sessions delivered over four weeks, focusing on various verbal and nonverbal behaviors. Trainers, recruited from psychology post-graduate students, underwent specific training in the Bangla-translated SST manual. The experimental procedure involved securing permissions from institutional authorities, recruiting participants, and randomizing them into experimental and waitlist control groups for the intervention and assessment phases. Follow-up assessments were conducted one month after the intervention, with participants receiving certificates as incentives for their participation.

The collected data underwent descriptive and inferential in SPSS Statistics 27 and SmartPLS 4 for both categorical and continuous variables. The data analyses focused on validating adapted scales, comparing changes in scores between groups and over time, investigating interaction effects, and assessing mediation effects. These analyses involved a range of statistical techniques, including independent sample *t*-tests, one-way repeated measures ANOVA, repeated measures MANOVA, and mediation modeling, to address the study's objectives comprehensively.

4.1 Discussion on Comparison of Changes in Studied Variables between Groups

The result presented in Table 39 reveals that there were no notable differences ($p > .05$) in the mean scores between the experimental and waitlist control groups during the pretest phase across Fear of Negative Evaluation, Self-Esteem, Interpersonal Situations (Discomfort & Frequency), and University Adjustment. Consequently, it can be inferred that both groups were capable before the SST intervention. These results support the hypothesis ($H_{1.1}$) that there are no significant differences in social anxiety, self-esteem, and university adjustment scores in the experimental group compared to the waitlist control group at the pretest time-point.

In contrast, Table 40 illustrates significant differences ($p < .05$) between the post-test scores of the experimental group and the post-wait test scores of the waitlist control group across Fear of Negative Evaluation, Self-Esteem, Interpersonal Situations (Discomfort), and University Adjustment, except for the IIS Frequency scale and its subscales ($p > .05$). Notably, these differences were accompanied by moderate to large effect sizes, indicating that the experimental group, having undergone SST, exhibited improvements (manifested as decreased mean scores in the studied variables) compared to the post-wait scores of the waitlist control group.

These findings support hypotheses $H_{1.3}$ and $H_{1.4}$ fully and $H_{1.2}$ mostly that the experimental group showed a significant decrease in social anxiety (fear of negative evaluation and IIS: discomfort) but significant improvement in self-esteem and university adjustment compared to the post-wait scores of the waitlist control group. These findings are consistent with the previous research, i.e., Ebrahim et al., (2022), Parray and Kumar (2022), and Shitavvagol et al., (2022). However, the experimental group showed no significant decrease in IIS (frequency) compared to the post-wait scores of the waitlist control group. There can be some factors that contribute to the insignificant decrease in IIS Frequency. Participants might find it monotonous to answer the same set of items twice, leading to boredom and a lack of engagement. The repetitive nature of the items could lead to confusion as participants might not differentiate clearly between the two contexts (discomfort vs. frequency). There is a risk that participants might not fully understand the difference between the response scales, leading to misinterpretation and potentially inconsistent responses.

The mean differences, as examined in Table 41, in post-test scores between the experimental and waitlist control groups following SST intervention indicate that no significant differences ($p > .05$) were observed in Fear of Negative Evaluation, Self-Esteem, Interpersonal Situations (Discomfort & Frequency), and University Adjustment, apart from the Academic Adjustment subscale ($p = .041$) under University Adjustment. These results fully support the hypothesis ($H_{1.5}$) that there are no significant differences in social anxiety, self-esteem, and university adjustment scores in the experimental group compared to the waitlist control group at the post-test (after the intervention).

Lastly, Table 42 suggests that at the 1-month follow-up, there were no significant differences between the experimental and waitlist control groups across

Fear of Negative Evaluation, Self-Esteem, Interpersonal Situations (Discomfort & Frequency), and University Adjustment. These findings also fully support the hypothesis ($H_{1.6}$) that there are no significant differences in social anxiety, self-esteem, and university adjustment scores in the experimental group compared to the waitlist control group at the follow-up test.

4.2 Discussion on Comparison of Changes in Studied Variables among Different Time Points

The findings presented in Table 43 – 45 shed lights on the changes observed in studied variables across different time points within the experimental and waitlist control groups. Beginning with Table 43, which outlines the results of a one-way repeated measures ANOVA conducted within the experimental group across three-time points (pretest, post-test, and follow-up test), it is evident that significant ($p < .05$) differences emerged in means across the three-time points for Fear of Negative Evaluation, Self-Esteem, Interpersonal Situations (Discomfort), and University Adjustment, with large effect sizes. Notably, the multivariate test results underscored a significant and substantial effect of time on the studied variables within the experimental group.

Table 44 delves into pairwise comparisons among the three time points within the experimental group. Significant decreases in Fear of Negative Evaluation, Self-Esteem, Interpersonal Situations (Discomfort), and University Adjustment were observed from pretest to post-test (T_1 to T_2) and from pretest to follow-up test (T_1 to T_3). Similarly, significant decreases were noted from post-test to follow-up test (T_2 to T_3) in Fear of Negative Evaluation, Self-Esteem, Interpersonal Situations (Discomfort), and University Adjustment. These findings support hypotheses $H_{2.2}$ and

$H_{2.3}$ fully and $H_{2.1}$ mostly that means significant decreases in Fear of Negative Evaluation and Interpersonal Situations: Discomfort but improvement in Self-Esteem (indicated by lower scores on RSES) and University Adjustment (indicated by lower scores on SACQ from the pretest to the post-test and will be maintained at follow-up within the experimental group. The results are partially consistent with a study conducted by Yadav and Iqbal (2009).

Turning to Table 45, which presents the results of a one-way repeated measures ANOVA within the waitlist control group across four time points, significant differences ($p < .05$) in means were observed across the four time points for Fear of Negative Evaluation, Self-Esteem, Interpersonal Situations (Discomfort), and University Adjustment, with large effect sizes. The multivariate test results confirmed a significant and considerable effect of time on the studied variables within the waitlist control group.

Table 46 provides pairwise comparisons among the four time points within the waitlist control group. While no significant differences were found between pretest a post-wait test (T_1 to T_2), significant differences were observed from pretest to post-test (T_1 to T_3) and from pretest to follow-up test (T_1 to T_4), as well as from post-wait test to post-test (T_2 to T_3). Additionally, significant decreases were noted from post-wait test to follow-up test (T_2 to T_4) in Fear of Negative Evaluation, Self-Esteem, and University Adjustment. These findings support hypotheses $H_{2.4}$, $H_{2.5}$, $H_{2.6}$, and $H_{2.7}$. Overall, these results underscore the effectiveness of the intervention, with both experimental and waitlist control groups experiencing significant improvements in the studied variables over time.

4.3 Discussion on Interaction Effect of Group and Time-Points

The findings presented in Table 47-48 illuminate the complex interplay between group membership (experimental group and waitlist control group) and time points (pretest and post-test), and their interaction on various studied variables. Beginning with Table 47, the results of the repeated measures MANOVA reveal significant effects of group, time, and their interaction on Fear of Negative Evaluation, Self-Esteem, Interpersonal Situations (Discomfort), and University Adjustment. For Fear of Negative Evaluation, both group and time exhibited significant effects, with their interaction also proving significant. While the effect of group membership had a small effect size, time exerted a substantial influence, indicating that changes over time significantly impacted fear of negative evaluation. Additionally, the interaction effect underscored the nuanced relationship between group membership and time in influencing fear of negative evaluation.

Similarly, for Self-Esteem, significant effects of time and their interaction were observed, despite group effects being insignificant. The substantial effect size of time highlights its pronounced impact on self-esteem, with the interaction effect further emphasizing the dynamic relationship between group membership and time influencing self-esteem. Moving on to IIS Discomfort and its subscales, while group effects were insignificant, both time and their interaction yielded significant effects. Time demonstrated a moderate effect size, indicating its noteworthy influence on interpersonal discomfort, while the interaction effect underscored the nuanced interplay between group membership and time in shaping discomfort levels.

For IIS Frequency and its subscales, while group and time effects were insignificant, their interaction proved significant, albeit with a small effect size. This

suggests that the influence of group membership varies across different time points concerning IIS Frequency. Lastly, for University Adjustment and its subscales, significant effects of group, time, and their interaction were observed. Group membership exhibited a moderate effect size, indicating its influence on university adjustment, while time exerted a large effect, signifying interaction effect highlighted the nuanced relationship between group membership and time in influencing university adjustment.

Table 48 further supports these findings by analyzing the multivariate effects of group, time, and their interaction on the overall set of variables. The significant overall effect suggests substantial differences across the levels of independent variables, with time demonstrating a significant influence on the overall pattern of responses. Additionally, while group effects were insignificant, the interaction effect emphasized the dynamic interplay between group membership and time across various studied variables. These findings support hypotheses $H_{3.2}$ and $H_{3.3}$ fully and $H_{3.1}$ mostly that there are significant interaction effects between group (experimental vs. waitlist control) and time points (pretest vs. post-test/post-wait test) on social anxiety, self-esteem, and university adjustment. It means that the experimental group (compared to the waitlist control group) shows significant reduction in the fear of negative evaluation and interpersonal situations (discomfort & frequency) but improvements in self-esteem (indicated by lower scores on RSES) and university adjustment (indicated by lower scores on SACQ) from the pretest to post-test, suggesting that the intervention had a strong positive impact on reducing social anxiety, improving self-esteem and university adjustment. The findings also supported partially with a previous study conducted by Płatos et al., (2022). Overall, these results underscore the intricate dynamics between group membership, time

points, and their interaction in shaping the studied variables, shedding light on the complex nature of the intervention's impact.

4.4 Discussion on Group-Wise Mediation Effect of Self-Esteem

The analysis conducted in this study aimed to explore the mediation effect according to group (EG and WCG) and to perform a Multi-Group Analysis (MGA) using Measurement Invariance of Composites (MICOM) and MGA procedures. MICOM was utilized to ensure that differences between both groups were not due to measurement model content or structural model disparities. Configural invariance was established, indicating identical models and data treatment for both groups. compositional invariance was also confirmed, except for the University Adjustment construct.

Upon examining composite mean values and variances, partial measurement invariance was established for Fear of Negative Evaluation, Interpersonal Situation: Discomfort and Frequency, and Self-Esteem, while no measurement invariance was found for University Adjustment. Overall, this suggests that most composite properties were consistent across groups, except for University Adjustment. Following MICOM analysis, MGA based on permutations and PLS-MGA was conducted to compare relationships between predictor and endogenous variables in EG and WCG. The results showed no significant group differences in the relationship between Fear of Negative Evaluation, Interpersonal Situation: Discomfort and Frequency, and Self-Esteem. However, significant group differences were found in the relationship between Fear of Negative Evaluation, Interpersonal Situation: Discomfort and Frequency, and University Adjustment.

Further analysis of direct effects in the structural model revealed significant positive effects of Fear of Negative Evaluation and Self-Esteem on University Adjustment in the EG, while in the WCG, only Self-Esteem showed a significant positive effect on University Adjustment. Mediation effects on Self-Esteem within different groups were also explored. In the EG, Self-Esteem partially mediated the relationship between Fear of Negative Evaluation and University Adjustment. This result partially supports the hypothesis ($H_{4.1}$) that self-esteem mediates the relationship between social anxiety and university adjustment in the experimental group. Conversely, in the WCG, Self-Esteem fully mediated this relationship. This finding fully supports the hypothesis ($H_{4.2}$) that self-esteem mediates the relationship between social anxiety and university adjustment in the waitlist control group after receiving the intervention. In the complete group, Self-Esteem partially mediated the relationship between Fear of Negative Evaluation and University Adjustment. This result partially supports the hypothesis ($H_{4.3}$) that self-esteem mediates the relationship between social anxiety and university adjustment in the complete data set. The findings is consistent with a previous study conducted by Nordstrom et al., (2014). Overall, these findings contribute to a deeper understanding of the relationship dynamics between predictor variables and endogenous constructs, shedding light on the mediation role of Self-Esteem in different groups and its implications for university adjustment.

4.5 Limitations of the Study

While the study provides valuable insights into the effectiveness of social skill training intervention on social anxiety, self-esteem, and university adjustment among university-level students in Bangladesh, several limitations should be acknowledged:

- (1) Quasi-Experimental Design: The use of a quasi-experimental randomized waitlist control design limits the ability to establish causality between the social skill training intervention and the observed outcomes. Randomized controlled trials are typically considered the gold standard for determining intervention effectiveness.
- (2) Sample Size and Generalizability: The sample size of 172 participants, while adequate for the study's objectives, may not be sufficient for subgroup analysis or detecting small effect sizes. Additionally, the study's focus on university-level students in Bangladesh may limit the generalizability of findings to other populations or settings.
- (3) Sampling and Randomization Procedures: While randomization was conducted using SPSS, potential biases or errors in the randomization procedure and blinding methods would enhance the study's methodological rigor.
- (4) Measurement Instruments: Although the study utilized established measurement instruments, including the BFNE scale, IIS, and SACQ, the translation and adaptation process may have introduced cultural and linguistic nuances that could affect the validity and reliability of the measures.
- (5) Social Desirability Bias: Participants may have been influenced by social desirability bias, particularly when self-reporting sensitive information related to social anxiety, self-esteem, and university adjustment. The bias could impact the accuracy of the collected data.

- (6) Training Program Implementation: While the social skill training program was designed to address verbal and nonverbal behaviors, the fidelity and consistency of program delivery across trainers and sessions may vary, potentially influencing intervention outcomes.
- (7) Follow-up Period: The one-month follow-up period may be relatively short to assess the long-term effectiveness and sustainability of the social skill training intervention. Longer-term follow-up assessments would provide more robust evidence of intervention impact over time.
- (8) Statistical Analyses: While the study employed a variety of statistical techniques to analyze the data comprehensively, the choice of statistical methods may have limitations in addressing potential confounding variables or complex interactions among study variables.

Addressing these limitations in future research endeavors would strengthen the validity and reliability of findings, contributing to a more nuanced understanding of the effects of social skill training interventions on student well-being and adjustment.

4.6 Recommendations

The following recommendations can be made:

1. Replication with a Larger Sample: Conduct a follow-up study with a larger and more diverse sample to enhance the generalizability of findings. Recruiting participants from various educational levels, socioeconomic backgrounds, and cultural contexts could provide a broader understanding of the effectiveness of social skill training interventions.

2. **Randomized Controlled Trial:** Consider conducting a randomized controlled trial (RCT) to establish stronger causal relationships between the social skill training intervention and outcomes related to social anxiety, self-esteem, and university adjustment. Random assignment of participants to treatment and control groups would minimize potential biases and increase the study's internal validity.
3. **Longitudinal Study Design:** Extend the duration of the study to include longer follow-up periods, allowing for the assessment of the sustained effects of the social skill training intervention over time. Longitudinal data collection would provide valuable insights into the trajectory of outcomes beyond the immediate post-intervention period.
4. **Refinement of Measurement Instruments:** Further validate and refine the measurement instruments used in the study to ensure their reliability and validity in the specific cultural context of Bangladesh. Conducting qualitative interviews or focus groups with participants could help identify any cultural nuances or linguistic barriers affecting measurement accuracy.
5. **Standardization of Intervention Protocol:** Develop a standardized protocol for implementing the social skill training intervention, including detailed guidelines for trainers and standardized procedures for session delivery. Ensuring consistency in intervention delivery across trainers and sessions would enhance the reliability of intervention outcomes.
6. **Exploration of Mediating Mechanisms:** Investigate potential mediating mechanisms underlying the effects of social skill training on outcomes such as social anxiety, self-esteem, and university adjustment. Utilize advanced

statistical techniques, such as structural equation modeling or path analysis, to explore complex relationships among study variables.

7. Inclusion of Control Conditions: Compare the effects of social skill training intervention with alternative interventions or control conditions to assess its relative efficacy. Including control conditions such as active treatment controls or placebo interventions would provide a more rigorous test of the intervention's effectiveness.
8. Integration of Mixed Methods Approach: Integrate quantitative data analysis with qualitative methods, such as interviews or observations, to gain a deeper understanding of participants' experiences with the social skill training intervention. Triangulating findings from multiple sources would enhance the comprehensiveness of the study's results.

By addressing these recommendations, future research can advance our understanding of the impact of social skill training interventions on student well-being and academic adjustment, contributing to the development of evidence-based practices in educational settings.

4.7 Implications of the Present Study

4.7.1 Theoretical Implications

- (1) Contributions to Social Skills Theory: The study contributes to the theoretical understanding of social skills development by examining the effects of a structured social skill training intervention on social anxiety, self-esteem, and university adjustment. It extends existing theories by investigating the role of

social skills in mitigating psychological challenges faced by university-level students.

(2) Advancement of Intervention Theory: By evaluating the effectiveness of the social skill training intervention, the study enhances intervention theory within the context of educational psychology. It provides insights into the mechanisms through which targeted skill-building activities can promote positive psychological outcomes among students, thereby contributing to the literature on intervention efficacy.

(3) Cultural Adaptation of Measurement Instruments: The process of translating and adapting measurement instruments to the Bangladeshi cultural context contributes to cross-cultural psychology and measurement theory. It highlights the importance of ensuring the validity and reliability of assessment tools across diverse cultural settings, thereby advancing the methodological rigor of psychological research.

4.7.3 Practical Implications

(1) Informing Educational Practices: The findings of the study can inform educational practitioners, such as counselors and educators, about the potential benefits of implementing social skill training programs in university settings. Practical recommendations derived from the study may guide the development and implementation of evidence-based interventions aimed at enhancing student well-being and academic adjustment.

(2) Supporting Student Mental Health Services: The identification of social skill training as a potentially effective intervention for reducing social anxiety and

promoting self-esteem and university adjustment underscores the importance of investing in student mental health services. Universities and educational institutions may consider integrating social skill training programs into their existing support services to address the psychological needs of students.

(3) Cultural Sensitivity in Intervention Design: The process of culturally adapting the social skill training intervention and measurement instruments highlights the significance of cultural sensitivity in intervention design and implementation. Practitioners involved in developing and delivering psychological interventions should consider cultural factors that may influence intervention effectiveness and acceptability among diverse populations.

(4) Enhancing Student Engagement and Retention: Implementing social skill training programs may contribute to creating a supportive and inclusive learning environment that fosters student engagement and retention, ultimately enhancing their overall educational experience.

In summary, by addressing both theoretical and practical implications, the study contributes to the advancement of knowledge and the improvement of educational practices aimed at promoting student mental health and academic success.

Chapter 5:

Conclusion

Conclusion

This study aimed to investigate the impact of a social skill training intervention on social anxiety, self-esteem, and university adjustment among university-level students in Bangladesh. Initially, there were no significant differences in mean scores between the experimental and waitlist control groups, indicating both groups had equivalent levels across studied variables before the intervention. After the intervention, significant improvements were observed in the experimental group compared to the waitlist control group across social anxiety (fear of negative evaluation, interpersonal situations: discomfort), self-esteem, and university adjustment. On the other hand, after receiving SST intervention, experimental and waitlist control groups experienced significant improvements in social anxiety (fear of negative evaluation, interpersonal situations: discomfort), self-esteem, and university adjustment over time. The experimental group (compared to the waitlist control group) showed significant improvements in social anxiety (fear of negative evaluation and interpersonal situations: discomfort & frequency), self-esteem, and university adjustment from the pretest to post-test, suggesting that the intervention had a strong positive effect on reducing social anxiety, improving self-esteem and university adjustment.

Overall, the SST intervention effectively promoted positive changes in the studied variables, with self-esteem playing a crucial role in mediating the relationship between fear of negative evaluation and university adjustment. These findings contribute to a deeper understanding of the dynamics of intervention effects and highlight the potential implications for improving university adjustment outcomes.

References

References

- Abdullah, M. C., Elias, H., Mahyuddin R., & Uli, J. (2009). Adjustment amongst first-year students in a Malaysian university. *European Journal of Social Sciences*, 8(3), 496-505.
<http://psasir.upm.edu.my/id/eprint/7451/1/Adjustment%20amongst%20first%20year%20students%20in%20a%20Malaysian%20University.pdf>
- Ahmadi, H. (2003). *Social Anxiety*. <http://www.Tehran.behzisti.ir>
- Alden, L. E., & Mellings, T. M. B. (2004). Generalized social phobia and social judgments: The salience of self and partner-information. *Journal of Anxiety Disorders*, 18(2), 143-157. [https://doi.org/10.1016/S0887-6185\(02\)00244-X](https://doi.org/10.1016/S0887-6185(02)00244-X)
- Amahazion, F. F. (2021). Examining the psychometric properties of the Rosenberg Self-Esteem Scale in Eritrean youth. *Psychology*, 12(1), 68-83.
<https://doi.org/10.4236/psych.2021.121005>
- American Psychiatric Association (2000). *Diagnostic and statistics manual of mental disorders* (4th ed.).
- American Psychiatric Association, DSM-5 Task Force. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5™* (5th ed.). American Psychiatric Publishing, Inc.. <https://doi.org/10.1176/appi.books.9780890425596>
- Anderson, E., & Hope, D. A. (2009). The relationship among social phobia, objective and perceived physiological reactivity and anxiety sensitivity in an adolescent population, *Journal of Anxiety Disorders*, 23(1), 18-26.
<https://doi.org/10.1016/j.janxdis.2008.03.011>
- Angélico, A. P., Crippa, J. A. S., & Loureiro, S. R. (2006). Fobia social e habilidades sociais: Uma revisão da literatura. *Interação em Psicologia*, 10(1), 113-125.
- Angélico, A. P., Crippa, J. A. S., & Loureiro, S. R. (2013). Social anxiety disorder and social skills: A critical review of the literature. *International Journal of Behavioral Consultation and Therapy*, 7(4), 16-23.
<https://doi.org/10.1037/h0100961>

- Argyris, C. (1965). Explorations in Interpersonal Competence-I. *The Journal of Applied Behavioral Science*, 1(1), 58-83.
<https://doi.org/10.1177/002188636500100105>
- Argyris, C. (1968). Conditions for competence acquisition and therapy. *Journal of Applied Behavioural Science*, 4(2), 147-177.
<https://doi.org/10.1177/002188636800400201>
- Arkoff, A. (1968). *Adjustment and mental health*. McGraw-Hill.
- Arthur, N. (1998). The effects of stress, depression and anxiety on postsecondary students' coping strategies. *Journal of College Student Development*, 39(1), 11-22.
- Aspinwall, L. G., & Taylor, S. E. (1992). Modeling cognitive adaptation: A longitudinal investigation of the impact of individual differences and coping on college adjustment and performance. *Journal of Personality and Social Psychology*, 63(6), 989-1003. <https://doi.org/10.1037/0022-3514.63.6.989>
- Babayi, M. S., & Rahmati, A. (2014). Effects of assertive training on social anxiety of the students of Shahid Bahonar University of Kerman. *Reef Resources Assessment and Management Technical Paper*, 40(3), 295-301.
- Bagozzi, R. P., Yi, Y., & Phillips, L. W. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly*, 36(3), 421-458.
<https://doi.org/10.2307/2393203>
- Baker, R. W., & Siryk, B. (1984). Measuring adjustment to college. *Journal of Counseling Psychology*, 31(2), 179-189. <https://doi.org/10.1037/0022-0167.31.2.179>
- Baker, R. W., & Siryk, B. (1984). *Student Adaptation to College Questionnaire* [Database record]. APA PsycTests.
<https://doi.org/10.1037/t06525-000>
- Baker, R. W., & Siryk, B. (1986). Exploratory intervention with a scale measuring adjustment to college. *Journal of Counseling Psychology*, 33(1), 31-38.
<https://doi.org/10.1037/0022-0167.33.1.31>

- Baker, R. W., & Siryk, B. (1987). *The student adaptation to college questionnaire: A WPS test report*. Western Psychological Services.
- Baker, R. W., & Siryk, B. (1989). *Student adaptation to college questionnaire: Manual*. Western Psychological Services.
- Baker, R. W., & Siryk, B. (1999). *Student Adaptation to College Questionnaire Manual (SACQ; 2nd ed.)*. Western Psychological Services.
- Baker, S. R., & Edelmann, R. J. (2002). Is social phobia related to lack of social skills? Duration of skill-related behaviours and ratings of behavioural adequacy. *British Journal of Clinical Psychology*, 41(3), 243-257.
<https://doi.org/10.1348/014466502760379118>
- Bandura, A. (1969). *Principles of behavior modification*. Holt, Rinehart and Winston.
- Bandura, A. (1977). *Social learning theory*. Prentice-Hall.
- Bano, N., Riaz, Z., & Khanam, S. J. (2009). Translation and adaptation of Brief Fear of Negative Evaluation (BFNE) scale in Pakistan. *Pakistan Journal of Psychology*, 40(2), 79-106.
<https://link.gale.com/apps/doc/A240811486/AONE?u=anon~e61fbdc8&sid=googleScholar&xid=ea625901>
- Baumeister, R. F. (Ed.). (1993). *Self-Esteem: The puzzle of low self-regard*. Plenum Press.
- Beidel, D. C., & Turner, S. M. (1998). Prevalence of social phobia. In D. C. Beidel & J. L. DeLucia (Eds.), *Shy children, phobic adults: Nature and treatment of social phobia* (pp. 59-66). American Psychological Association.
- Beidel, D. C., & Turner, S. M. (1998). *Shy children, phobic adults: Nature and treatment of social phobia*. American Psychological Association.
- Beidel, D. C., & Turner, S. M. (2007). *Shy children, phobic adults: the nature and treatment of social anxiety disorder* (2nd ed.). American Psychological Association.

- Beidel, D. C., Alfano, C. A., Kofler, M. J., Rao, P. A., Scharfstein, L., & Sarver, N. W. (2014). The impact of social skills training for social anxiety disorder: A randomized controlled trial. *Journal of Anxiety Disorders*, 28(8), 908-918. <https://doi.org/10.1016/j.janxdis.2014.09.016>
- Beidel, D. C., Turner, S. M., Jacob, R. G., & Cooley, M. R. (1989). Assessment of social phobia: Reliability of an impromptu speech task. *Journal of Anxiety Disorders*, 3(3), 149-158. [https://doi.org/10.1016/0887-6185\(89\)90009-1](https://doi.org/10.1016/0887-6185(89)90009-1)
- Beidel, D. C., Turner, S. M., Stanley, M. A., & Dancu, C. V. (1989). The Social Phobia and Anxiety Inventory: Concurrent and external validity. *Behavior Therapy*, 20(3), 417-427. [https://doi.org/10.1016/S0005-7894\(89\)80060-7](https://doi.org/10.1016/S0005-7894(89)80060-7)
- Bernal-Altamirano, D., Herrera-Quispe, B. A., & Cunza-Aranzábal, D. F. (2022). Psychometric properties of the brief version of the fear of negative evaluation scale (BFNE) in a Peruvian sample. *Journal of Psychopathology and Clinical Psychology*, 27(2), 113-120. <https://doi.org/10.5944/rppc.29581>
- Beyers, W., & Goossens, L. (2002). Concurrent and predictive validity of the student adaptation to college questionnaire in a sample of European freshman students. *Educational and Psychological Measurement*, 62(3), 527-538. <https://doi.org/10.1177/00164402062003009>
- Bishop, J. (2003). The Internet for educating individuals with social impairments. *Journal of Computer Assisted Learning*, 19(4), 546-556. <https://doi.org/10.1046/j.0266-4909.2003.00057.x>
- Blascovich, J., & Tomaka, J. (1999). Measures of self-esteem. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds), *Measures of personality and social psychological attitudes, Volume I* (pp. 115-160). Academic Press.
- Bögels, S. M., Rijsems, W., & De Jong, P. J. (2002). Self-focused attention and social anxiety: The effects of experimentally heightened self-awareness on fear, blushing, cognitions, and social skills. *Cognitive Therapy and Research*, 26(4), 461-472. <https://doi.org/10.1023/A:1016275700203>
- Bolsoni-Silva, A. T. (2011). *Habilidades sociais e saúde mental de estudantes universitários: Construção e validação do Q-ACC-VU e estudos clínicos em*

- análise do comportamento* (Tese de livre-docência não publicada).
Universidade Estadual Paulista “Júlio de Mesquita Filho”, Bauru, SP.
- Bolsoni-Silva, A. T., & Loureiro, S. R. (2014). The role of social skills in social anxiety of university students. *Paidéia*, 24(58), 223-232.
<https://doi.org/10.1590/1982-43272458201410>
- Briggs, S. R. and Cheek, J. M. (1986). The role of factor analysis in the development and evaluation of personality scales. *Journal of Personality*, 54(1), 106-148.
<https://doi.org/10.1111/j.1467-6494.1986.tb00391.x>
- Bruch, M. A., Kaflowitz, N. G., & Pearl, L. (1988). Mediated and nonmediated relationships of personality components to loneliness. *Journal of Social and Clinical Psychology*, 6(3-4), 346-355. <https://doi.org/10.1521/jscp.1988.6.3-4.346>
- Byrne, B. M. (2016). *Structural equation modeling with AMOS: Basic concepts, applications and programmings*. Routledge.
- Carayon, S. & Gilles, P. Y. (2005). Développement du questionnaire d'adaptation des étudiants à l'université (QAEU) [Development of the Adaptation Questionnaire for University Students]. *L'Orientation Scolaire et Professionnelle*, 34(2), 165-189. <https://doi.org/10.4000/osp.463>
- Cassaretto, M., Vilela, P., Dávila, M., Páramo, M. F., & Rodríguez, M. S. (2022). Validation of the Spanish version of the Student Adaptation to College Questionnaire (SACQ-50) with Peruvian students. *Journal of American College Health*, 1-5. <https://doi.org/10.1080/07448481.2022.2137676>
- Čerešník, M., Dolejš, M., Čerešníková, M., & Tomšík, R. (2022). Psychometric analysis of Rosenberg's Self-Esteem Scale. A specific application of the scale on adolescents aged 11-19. *TEM Journal*, 11(4), 1732-1741.
<https://doi.org/10.18421/TEM114-39>
- Chambless, D. L., & Ollendick, T. H. (2001). Empirically supported psychological interventions: Controversies and evidence. *Annual Review of Psychology*, 52(1), 685-716. <https://doi.org/10.1146/annurev.psych.52.1.685>

- Chambless, D. L., Tran, G. Q., & Glass, C. R. (1997). Predictors of response to cognitive-behavioral group therapy for social phobia. *Journal of Anxiety Disorders, 11*(3), 221-240. [https://doi.org/10.1016/S0887-6185\(97\)00008-X](https://doi.org/10.1016/S0887-6185(97)00008-X)
- Chartier, M. J., Walker, J. R., & Stein, M. B. (2003). Considering comorbidity in social phobia. *Social Psychiatry and Psychiatric Epidemiology, 38*, 728-734. <https://doi.org/10.1007/s00127-003-0720-6>
- Cheah, J. H., Thurasamy, R., Memon, M. A., Chuah, F., & Ting, H. (2020). Multigroup analysis using SmartPLS: Step-by-step guidelines for business research. *Asian Journal of Business Research, 10*(3), I-XIX. <https://doi.org/10.14707/ajbr.200087>
- Christensen, P. N., Stein, M. B., & Means-Christensen, A. (2003). Social anxiety and interpersonal perception: A social relations model analysis. *Behaviour Research and Therapy, 41*(11), 1355-1371. [https://doi.org/10.1016/S0005-7967\(03\)00064-0](https://doi.org/10.1016/S0005-7967(03)00064-0)
- Combs, M. L., & Slaby, D. A. (1977). Social skills training with children. In B. B. Lahey & A. E. Kazdin (Eds.), *Advances in clinical child psychology*. Plenum Press.
- Cong, C. W., & Cheong, J. Y. (2023). Validation of Rosenberg self-esteem scale for Malaysian adolescents. *Current Psychology, 42*(21), 17835-17838. <https://doi.org/10.1007/s12144-022-02960-z>
- Cook, S. L. (1995). Acceptance and expectation of sexual aggression in college students. *Psychology of Women Quarterly, 19*(2), 181-194. <https://doi.org/10.1111/j.1471-6402.1995.tb00286.x>
- Corrigan, P. W. (1991). Social skills training in adult psychiatric populations: A meta-analysis. *Behaviour Research and Therapy, 22*(3), 203-210. [https://doi.org/10.1016/0005-7916\(91\)90017-Y](https://doi.org/10.1016/0005-7916(91)90017-Y)
- Cottraux, J., Note, I., Albuisson, E., Yao, S. N., Note, B., Mol-lard, E., Bonasse, F., Jalenques, I., Guérin, J., & Coudert, A. J. (2000). Cognitive behavior therapy versus supportive therapy in social phobia: A randomized controlled trial.

Psychotherapy and Psychosomatics, 69(3), 137-146.

<https://doi.org/10.1159/000012382>

Cougle, J., Keough, M., Riccardi, C., & Sachs-Ericsson, N. (2009). Anxiety disorders and suicidality in the National Comorbidity Survey-Replication. *Journal of Psychiatric Research*, 43(9), 825-829.

<https://doi.org/10.1016/j.jpsychires.2008.12.004>

Craske, M., Wittchen, U., Bogels, S., Stein, M., Andrews, G., & Lebeu, R. (2013). *Severity Measure for Social Anxiety Disorder (Social Phobia)—Adult [Measurement instrument]*.

<http://www.psychiatry.org/practice/dsm/dsm5/online-assessment-measures>

Credé, M., & Niehorster, S. (2012). Adjustment to college as measured by the student adaptation to college questionnaire: A quantitative review of its structure and relationships with correlates and consequences. *Educational Psychology Review*, 24(1), 133-165. <https://doi.org/10.1007/s10648-011-9184-5>

Cristobal, E., Flavian, C., & Guinaliu, M. (2007). Perceived e- service quality (PeSQ) measurement validation and effects on consumer satisfaction and web site loyalty. *Managing Service Quality: An International Journal*, 17(3), 317-340. <https://doi.org/10.1108/09604520710744326>

Deb, S., Chatterjee, P., & Walsh, K. (2010). Anxiety among high school Students in India: Comparisons across gender, school type, social strata and perceptions of quality time with parents. *Australian Journal of Educational & Developmental Psychology*, 10, 18-31. <http://eprints.qut.edu.au/>

Del Prette, A., & Del Prette, Z. A. P. (2001). *Psicologia das relações interpessoais: Vivências para o trabalho em gru-po*. Editora Vozes.

di Maria, F., & di Nuovo, S. (1990). Gender differences in social and test anxiety. *Personality and Individual Differences*, 11(5), 525-530. [https://doi.org/10.1016/0191-8869\(90\)90066-Z](https://doi.org/10.1016/0191-8869(90)90066-Z)

DiGiuseppe, R., McGowan, L., Sutton-Simon, K., & Gardner, F. (1990). A comparative outcome study of four cognitive therapies in the treatment of

social anxiety. *Journal of Rational-Emotive and Cognitive-Behavior Therapy*, 8, 129-146. <https://doi.org/10.1007/BF01066280>

Donahoe, P., & Driesenga, S. A. (1988). A review of social skills training with chronic mental patients. In M. Hersen, R. M. Eisler, & P. M. Miller (Eds.), *Progress in behavior modification* (Vol. 23). SAGE Publications.

Drake, R. E., & Bellack, A. S. (2005). Psychiatric rehabilitation. In B. J. Sadock & V. A. Sadock, (Eds.). *Kaplan & Sadock's Comprehensive Textbook of Psychiatry* (8th ed., Vol. I, pp.1476–1487). Lippincott Williams & Wilkins.

Ebrahim, S. M., Radwan, H. A., & El Amrosy, S. (2022). The effectiveness of life skills training on assertiveness, self-esteem and aggressive behavior among patients with substance use disorders. *International Egyptian Journal of Nursing Sciences and Research*, 2(2), 413-431. <https://doi.org/10.21608/ejnsr.2021.106940.1127>

Elias, H., Mahyuddin, R., & Noordin, N. (2009). Academic adjustment among second year students in Malaysian universities. *International Journal of Interdisciplinary Social Sciences*, 4(3), 237-252. <https://doi.org/10.18848/1833-1882/CGP/v04i03/52875>

Emmelkamp, P. M. G., Mersch, P. P., Vissia, E., & Van der Helm, M. (1985). Social phobia: A comparative evaluation of cognitive and behavioral interventions. *Behaviour Research and Therapy*, 23(3), 365-369. [https://doi.org/10.1016/0005-7967\(85\)90015-4](https://doi.org/10.1016/0005-7967(85)90015-4)

Espada, J. P., Quiles, M. J., & Méndez, F. X. (2002). Terapia cognitiva y exposición mixta en un caso de fobia social [Cognitive therapy and mixed exposure in a social phobia case]. *Análisis y Modificación de Conducta*, 28(117), 129-160.

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175-191. <https://doi.org/10.3758/BF03193146>

- Fava, G. A., Grandi, S., & Canestrari, R. (1989). Treatment of social phobia by homework exposure. *Psychotherapy and Psychosomatics*, 52(4), 209-213. <https://doi.org/10.1159/000288326>
- Feldt, R. C., Graham, M., & Dew, D. (2011). Measuring adjustment to college: Construct validity of the Student Adaptation to College Questionnaire. *Measurement and Evaluation in Counseling and Development*, 44(2), 92-104. <https://doi.org/10.1177/0748175611400291>
- Fisher, R. A. (1925). *Statistical methods for research workers*. Oliver & Boyd.
- Fornell, C., & Larcker, D. F. (1981). Evaluating *Structural Equation Models with Unobservable Variables and Measurement Error*. *Journal of Marketing Research*, 18(1), 39-50. <https://doi.org/10.1177/002224378101800104>
- Francesca, L., Sonia, I., Lo Cricchio, M. G., & Coco, A. L. (2022). Revision of the Student Adaptation to College Questionnaire (SACQ) for use with Italian students. *Journal of Clinical & Developmental Psychology*, 4(1), 17-37. <https://doi.org/10.13129/2612-4033/0110-3413>
- Franklin, M. E., Feeny, N. C., Abramowitz, J. S., Zoellner, L. A., & Bux, D. A. (2001). Comprehensive cognitive behavior therapy: A multi-component treatment for generalized social phobia. *Psicoterapia Cognitiva e Comportamentale*, 7(3), 211-221.
- Friedlander, L. J., Reid, G. J., Shupak, N., & Cribbie, R. (2007). Social support, self-esteem and stress as predictors of adjustment to university among first- year undergraduates. *Journal of College Student Development*, 48(3), 259-274. <https://doi.org/10.1353/csd.2007.0024>
- Furmark, T. (2000). *Social Phobia. From Epidemiology to Brain Function* [Doctoral dissertation, Acta Universitatis Upsaliensis]. Digitala Vetenskapliga Arkivet. <https://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-546>
- Furmark, T. (2002). Social phobia: Overview of community surveys. *Acta Psychiatrica Scandinavica*, 105(2), 84-93. <https://doi.org/10.1034/j.1600-0447.2002.1r103.x>

- Gao, X., Xia, L., Wang, F., Hou, M., & Gong, Y. (2023). Applying item response theory to the Student Adaptation to College Questionnaire: Examining psychometric characteristics and developing computerized adaptive testing version. *Journal of Personality Assessment*, 105(6), 797–806.
<https://doi.org/10.1080/00223891.2023.2180745>
- Gerdes, H., & Mallinckrodt, B. (1994). Emotional, social academic adjustment of college students. A longitudinal study of retention. *Journal of Counselling and Development*, 72(3), 281-288. <https://doi.org/10.1002/j.1556-6676.1994.tb00935.x>
- Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of Management Information Systems*, 18(1), 185-214. <https://doi.org/10.1080/07421222.2001.11045669>
- Goldsmith, J. B., & McFall, R. M. (1975). Development and evaluation of an interpersonal skill training program for psychiatric patients. *Journal of Abnormal Psychology*, 84(1), 51-58.
<https://psycnet.apa.org/doi/10.1037/h0076264>
- Gómez-Lugo, M., Espada, J. P., Morales, A., Marchal-Bertrand, L., Soler, F., & Vallejo-Medina, P. (2016). Adaptation, validation, reliability and factorial equivalence of the Rosenberg Self-Esteem Scale in Colombian and Spanish population. *The Spanish Journal of Psychology*, 19(e66), 1-12.
<https://doi.org/10.1017/sjp.2016.67>
- Grama, B. (2018). The student adaptation to college questionnaire (SACQ) for use with Romanian students. *Psihologia Resurselor Umane*, 16(1), 16-26.
<http://dx.doi.org/10.24837/pru.2018.1.483>
- Gravini Donado, M. L., Mercado-Peñaloza, M., & Dominguez-Lara, S. (2021). College adaptation among Colombian freshmen students: Internal structure of the Student Adaptation to College Questionnaire (SACQ). *Journal of New Approaches in Educational Research*, 10(2), 251-263.
<https://doi.org/10.7821/naer.2021.7.657>

- Grimm, L. G., & Yarnold, P. R. (Eds.). (1995). *Reading and understanding multivariate statistics*. American Psychological Association.
- Grover, V. (2015). Autism: Social skills deficit and implication for classroom situation. *International Journal of Multidisciplinary Research and Development*, 2(1), 32-35.
http://www.iriforum.org/download/32IRI_autism.pdf
- Hair Jr, J. F., Hult, G.T.M., Ringle, C.M., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. SAGE Publications.
- Hair Jr., J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2010). *Multivariate data analysis: A global perspective*. Pearson Education.
- Hair Jr., J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). SAGE Publications.
- Hair Jr., J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–152.
<https://doi.org/10.2753/MTP1069-6679190202>
- Hair Jr., J. F., Risher, J. J., Sarstedt, M. & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2-24.
<https://doi.org/10.1108/EBR-11-2018-0203>
- Hair Jr., J.F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis* (6th ed.). Pearson Prentice Hall.
- Hair Jr., J.F., Howard, M.C., & Nitzl, C. (2020). Assessing measurement model quality in PLS- SEM using confirmatory composite analysis. *Journal of Business Research*, 109, 101-110.
<https://doi.org/10.1016/j.jbusres.2019.11.069>
- Hajdúk, M., Boleková, V., & Heretik, A. (2015). Psychometric properties of Brief Fear of Negative Evaluation – comparison of BFNE and BFNE-S. *Annales Psychologici*, 2(16)(1), 12-19. <https://hdl.handle.net/11222.digilib/134399>

- Hampel, S., Weis, S., Hiller, W., & Witthoft, M. (2011). The relations between social anxiety and social intelligence: A latent variable analysis, *Journal of Anxiety Disorders*, 25(4), 545-553. <https://doi.org/10.1016/j.janxdis.2011.01.001>
- Harkness, J. (2011), Translation, in Cross-cultural surveys guidelines, Comparative Survey Design Implementation. <http://ccsg.isr.umich.edu/translation.cfm>
- Harkness, J. A. (2003). Questionnaire translation. In J. A. Harkness, F. van de Vijver & P. Ph. Mohler (Eds.), *Cross-cultural survey methods* (pp. 35-56). John Wiley & Sons.
- Harkness, J. A. (2007). Improving the comparability of translation. In R. Jowell, C. Roberts, R. Fitzgerald & G. Eva (Eds.), *Measuring attitudes cross-nationally: Lessons from the European Social Survey* (pp. 79-94). Sage.
- Harkness, J. A. (2008). Round 4 ESS translation strategies and procedures. *European Social Survey*, 1-14.
- Harter, S. (1993). Causes and consequences of low self-esteem in children and adolescents. In R. F. Baumeister (Ed.), *Self-esteem: The puzzle of low self-regard* (pp. 87-116). Plenum Press.
- Harter, S. (1999). *The construction of the self: A developmental perspective*. Guilford Press.
- Hayes, R. L., Halford, W. K., & Varghese, F. T. (1995). Social skills training with chronic schizophrenic patients: Effects on negative symptoms and community functioning. *Behavior Therapy*, 26(3), 433-449. [https://doi.org/10.1016/S0005-7894\(05\)80092-9](https://doi.org/10.1016/S0005-7894(05)80092-9)
- Hayes, S. C., McCurry, S. M., Afari, N., & Wilson, K. G. (1991). *Acceptance and Commitment therapy (ACT): A therapy manual for the treatment of emotional avoidance*. Context Press.
- Heimberg, R. G. (1991). *Cognitive-behavioral group therapy for social phobia: A treatment manual* [Unpublished manuscript]. The University at Albany, State University of New York.

- Heimberg, R. G., & Becker, R. E. (2002). *Cognitive-behavioral group therapy for social phobia: Basic mechanisms and clinical strategies*. Guilford Press.
- Heimberg, R. G., Dodge, C. S., Hope, D. A., Kennedy, C. R., Zollo, L., & Becker, R. E. (1990). Cognitive-behavioral group treatment of social phobia: Comparison to a credible placebo control. *Cognitive Therapy and Research*, 14, 1-23. <https://doi.org/10.1007/BF01173521>
- Heimberg, R. G., Liebowitz, M. R., Hope, D. A., Schneier, F. R., Hold, C. S., Welkowitz, L., Juster, H. R., Campeas, R., Bruch, M. A., Cloitre, M., Fallon, B., & Klein, D. F. (1998). Cognitive-behavioral group therapy versus phenelzine in social phobia: 12-week outcome. *Archives of General Psychiatry*, 55(12), 1133-1141. <https://doi.org/10.1001/archpsyc.55.12.1133>
- Heimberg, R. G., Stein, M. B., Hiripi, E., & Kessler, R.C. (2000). Trends in the prevalence of social phobia in the United States: A synthetic cohort analysis of change over four decades. *European Psychiatry*, 15(1), 29-37. [https://doi.org/10.1016/S0924-9338\(00\)00213-3](https://doi.org/10.1016/S0924-9338(00)00213-3)
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>.
- Herbert, J. D., Gaudiano, B. A., Rheingold, A. A., Myers, V. H., Dalrymple, K., & Nolan, E. M. (2005). Social skill training augments the effectiveness of cognitive behavioral group therapy for social anxiety disorder. *Behavior Therapy*, 36(2), 125-138. [https://doi.org/10.1016/S0005-7894\(05\)80061-9](https://doi.org/10.1016/S0005-7894(05)80061-9)
- Herbert, J. D., Rheingold, A. A., & Goldstein, S. G. (2002). Brief cognitive behavioral group therapy for social anxiety disorder. *Cognitive and Behavioral Practice*, 9(1), 1-8. [https://doi.org/10.1016/S1077-7229\(02\)80033-5](https://doi.org/10.1016/S1077-7229(02)80033-5)
- Herbert, J. D., Rheingold, A. A., Gaudiano, B. A., & Myers, V. H. (2004). Standard versus extended cognitive behavior therapy for social anxiety disorder: A randomized controlled trial. *Behavioural and Cognitive Psychotherapy*, 32(2), 131-147. <https://doi.org/10.1017/S1352465804001171>

- Hersen, M., & Bellack, A. S. (1977). Assessment of social skills. In A. R. Ciminero, K. S. Calhoun, & H. E. Adams (Eds.), *Handbook of behavioural assessment* (pp. 509-554). Wiley.
- Hickman, G. P., Bartholomae, S., & McKenry, P. C. (2000). Influence of parenting styles on the adjustment and academic achievement of traditional college freshmen. *Journal of College Student Development*, 41(1), 41-54.
- Hope, D. A., Heimberg, R. G., & Bruch, M. A. (1995). Dismantling cognitive-behavioral group therapy for social phobia. *Behaviour Research and Therapy*, 33(6), 637-650. [https://doi.org/10.1016/0005-7967\(95\)00013-N](https://doi.org/10.1016/0005-7967(95)00013-N)
- Horley, K., Williams, L. M., Gonsalvez, C., & Gordon, E. (2003) Social phobics do not see eye to eye: A visual scanpath study of emotional expression processing. *Journal of Anxiety Disorders*, 17(1), 33-44. [https://doi.org/10.1016/S0887-6185\(02\)00180-9](https://doi.org/10.1016/S0887-6185(02)00180-9)
- Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, 20(2), 195-204. [https://doi.org/10.1002/\(SICI\)1097-0266\(199902\)20:2<195::AID-SMJ13>3.0.CO;2-7](https://doi.org/10.1002/(SICI)1097-0266(199902)20:2<195::AID-SMJ13>3.0.CO;2-7)
- Ilyas, Q. S. M. (2003). *Bengali translation of Rosenberg's self-esteem scale* [Unpublished manuscript]. Department of Psychology, University of Dhaka, Dhaka, Bangladesh.
- Izgic, F., Akyuz, G., Dogan, O., & Kugu, N. (2004). Social phobia among university students and its relation to self-esteem and body image. *Canadian Journal of Psychiatry*, 49(9), 630-634. <https://doi.org/10.1177/070674370404900910>
- Jerremalm, A., Jansson, L., & Öst, L. G. (1986). Cognitive and physiological reactivity and the effects of different behavioral methods in the treatment of social phobia. *Behaviour Research and Therapy*, 24(2), 171-180. [https://doi.org/10.1016/0005-7967\(86\)90088-4](https://doi.org/10.1016/0005-7967(86)90088-4)
- Judd L. L. (1994). Social phobia: A clinical overview [Supplemental material]. *Journal of Clinical Psychiatry*, 55, 5-9.

- Karim, A. K. M. R., & Nigar, N. (2014). The Internet addiction test: Assessing its psychometric properties in Bangladeshi culture. *Asian Journal of Psychiatry*, 10, 75-83. <https://doi.org/10.1016/j.ajp.2013.10.011>
- Kashani, P. A., & Bayat, M. (2010). The effect of social skills training (assertiveness) on assertiveness and self-esteem of 9 to 11-year-old female students in Tehran, Iran. *World Applied Sciences Journal*, 9(9), 1028-1032. [https://www.idosi.org/wasj/wasj9\(9\)/10.pdf](https://www.idosi.org/wasj/wasj9(9)/10.pdf)
- Kessler, R. (2003). The impairments caused by social phobia in the general population: Implications for intervention. *Acta Psychiatrica Scandinavica*, 108(s417), 19-27. <https://doi.org/10.1034/j.1600-0447.108.s417.2.x>
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62(6), 593-602. <https://doi.org/10.1001/archpsyc.62.6.593>
- Kessler, R.C., McGonagle, K. A., Zhao, S., Nelson, C. B., Hughes, M., Eshleman, S., Wittchen, H. U., & Kendler, K. S. (1994). Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the National Comorbidity Survey. *Archives of General Psychiatry*, 51(1), 8-19. <https://doi.org/10.1001/archpsyc.1994.03950010008002>
- Kielkiewicz, K., Mathúna, C. Ó., & McLaughlin, C. (2020). Construct validity and dimensionality of the Rosenberg Self-Esteem Scale and its association with spiritual values within Irish population. *Journal of religion and health*, 59, 381-398. <https://doi.org/10.1007/s10943-019-00821-x>
- Kline, R. B. (2015). *Principles and Practice of Structural Equation Modeling*. Guilford Publications.
- Kocovski, N. L., & Endler, N. S. (2000). Social anxiety, self-regulation, and fear of negative evaluation. *European Journal of Personality*, 14(4), 347-358. [https://doi.org/10.1002/1099-0984\(200007/08\)14:4%3C347::AID-PER381%3E3.0.CO;2-7](https://doi.org/10.1002/1099-0984(200007/08)14:4%3C347::AID-PER381%3E3.0.CO;2-7)

- Koydemir, S., & Demir, A. (2007). Psychometric properties of the Brief version of the Fear of Negative Evaluation Scale in a Turkish sample. *Psychological Reports, 100*(3), 883-893. <https://doi.org/10.2466/pr0.100.3.883-893>
- Kraaimaat, F. W., Vanryckeghem, M., & Van Dam-Baggen, R. (2002). Stuttering and social anxiety. *Journal of Fluency Disorders, 27*(4), 319-331. [https://doi.org/10.1016/S0094-730X\(02\)00160-2](https://doi.org/10.1016/S0094-730X(02)00160-2)
- Kyalo, P. M., & Chumba, R. J. (2011). Selected factors influencing social and academic adjustment of undergraduate students of Egerton University; Njoro Campus. *International Journal of Business and Social Science, 2*(18), 274-290.
- Leary, M. R. (1983). A brief version of the Fear of Negative Evaluation Scale. *Personality and Social Psychology Bulletin, 9*(3), 371-375. <https://doi.org/10.1177/0146167283093007>
- LeBeau, R. T., Mesri, B., & Craske, M. G. (2016). The DSM-5 social anxiety disorder severity scale: Evidence of validity and reliability in a clinical sample. *Psychiatry Research, 244*, 94-96. <https://doi.org/10.1016/j.psychres.2016.07.024>
- Levitán, M., Rangé, B., & Nardi, A. E. (2008). Habilidades sociais na agorafobia e fobia social. *Psicologia: Teoria e Pesquisa, 24*(1), 95-99. <https://doi.org/10.1590/S0102-37722008000100011>
- Libet, J., & Lewinsohn, P. M. (1973). The concept of social skill with special references to the behavior of depressed persons. *Journal of Consulting and Clinical Psychology, 40*(2), 304-312. <https://psycnet.apa.org/doi/10.1037/h0034530>
- Liebowitz, M. R., Heimberg, R. G., Schneier, F. R., Hope, D. A., Davies, S., Holt, C. S., Goetz, D., Juster, H. R., Lin, S. H., Bruch, M., Marshall, R. D., & Klein, D. F. (1999). Cognitive-behavioral group therapy versus phenelzine in social phobia: Long-term outcome. *Depression and Anxiety, 10*(3), 89-98. [https://doi.org/10.1002/\(SICI\)1520-6394\(1999\)10:3%3C89::AID-DA1%3E3.0.CO;2-5](https://doi.org/10.1002/(SICI)1520-6394(1999)10:3%3C89::AID-DA1%3E3.0.CO;2-5)

- Lim, H. L., Ling, M. Y., Teh, C. H., Heng, P. P., Kee, C. C., Ghazali, S. M., Veloo, Y., & Lim, K. H. (2019). Construct validity and reliability of Rosenberg Self-Esteem Scale-Malay (RSES-M) among upper secondary school students in Malaysia. *Malaysian Journal of Medicine and Health Sciences*, 15(2), 32-38.
- Lindsay, S., & Powell, G. (Eds.). (2007). *The handbook of Clinical Adult Psychology* (3rd ed.). Routledge.
- Mahmoodi R, M., Arasteh, H. R., Afghah, S., & Sadeh, F. B. (2007). The role of communication skills and social problem solving training on self-esteem and IQ in third grade students. *Rehabilitation in Psychotic Disorders & Disease*, 8(special issue), 71-76. <https://rehabilitationj.uswr.ac.ir/article-1-133-en.html>
- Mahmoud, S., & Hamid, R. A. (2013). Effectiveness of assertiveness training programme on self esteem and academic achievement in adolescents girls at secondary school at Abha city. *Journal of American Science*, 9(8), 262-269. <http://www.jofamericanscience.org>
- Mahmoudi, M., Gudarzi, M. A., Taghavi, S. M. R., & Rahimi, C. (2010). The investigation of the effectiveness of short term treatment focusing on metacognition on the symptoms of social anxiety disorder: Study of a single subject. *Journal of Mental Health*, 12, 41-63.
- Mates, T. E. (1990). Siblings of autistic children: Their adjustment and performance at home and in school. *Journal of Autism and Developmental Disorders*, 20(4), 545-553. <https://doi.org/10.1007/BF02216059>
- Mattick, R. P., & Peters, L. (1988). Treatment of severe social phobia: Effects of guided exposure with and without cognitive restructuring. *Journal of Consulting and Clinical Psychology*, 56(2), 251-260. <https://psycnet.apa.org/doi/10.1037/0022-006X.56.2.251>
- Mayordomo, T., Gutierrez, M., & Sales, A. (2020). Adapting and validating the Rosenberg Self-Esteem Scale for elderly Spanish population. *International Psychogeriatrics*, 32(2), 183-190. <https://doi.org/10.1017/S1041610219001170>

- Mersch, P. P. A., Emmelkamp, P. M. G., Bogels, S. M., & Van der Sleen, J. (1989). Social phobia: Individual response patterns and the effects of behavioral and cognitive interventions. *Behaviour Research and Therapy*, 27(4), 421-434. [https://doi.org/10.1016/0005-7967\(89\)90013-2](https://doi.org/10.1016/0005-7967(89)90013-2)
- Miller, R. S. (1995). On the nature of embarrassability: Shyness, social evaluation, and social skill. *Journal of Personality*, 63(2), 315-339. <https://doi.org/10.1111/j.1467-6494.1995.tb00812.x>
- Mimura, C., & Griffiths, P. (2007). A Japanese version of the Rosenberg Self-Esteem Scale: Translation and equivalence assessment. *Journal of Psychosomatic Research*, 62(5), 589-594. <https://doi.org/10.1016/j.jpsychores.2006.11.004>
- Ministry of Education. (2017, March 23). Education system. Retrieved September 7, 2023, from <https://shed.gov.bd/site/page/568b71f6-2811-4463-bf2c-f3d71db59cef/Education-Structure->
- Mohler, P., Dorer, B., de Jong, J., & Hu, M. (2016). Translation: overview. *Guidelines for Best Practice in Cross-Cultural Surveys*. Survey Research Center, Institute for Social Research, University of Michigan, 233-285. <https://ccsg.isr.umich.edu/chapters/translation/overview/>
- Monteiro, S. O. M., Tavares, J. P. C., & Pereira, A. M. S. (2008). Optimismo disposicional, sintomatologia psicopatológica, bem-estar e rendimento académico em estudantes do primeiro ano do ensino superior. *Estudos de Psicologia (Natal)*, 13(1), 23-29. <https://doi.org/10.1590/S1413-294X2008000100003>
- Monti, P. M., Curran, J. P., Corriveau, D. P., DeLancey, A. L., & Hagerman, S. M. (1980). Effects of social skills training groups and sensitivity training groups with psychiatric patients. *Journal of Consulting and Clinical Psychology*, 48(2), 241-248. <https://doi.org/10.1037/0022-006X.48.2.241>
- Moser, L. E. & Moser, R. S. (1963). *Counselling & guidance: An exploration*. Prentice Hall, Inc.
- Neighbors, C., Fossos, N., Woods, B., Fabiano, P., Sledge, M., & Frost, D. (2007). Social anxiety as a moderator of the relationship between perceived norms and

drinking. *Journal of Studies on Alcohol and Drugs*, 68(1), 91-96.

<https://doi.org/10.15288/jsad.2007.68.91>

Ngan, T. T. Q., Thai, T. T., Hoffman, L., Unicomb, R., & Hewat, S. (2023).

Translation and validation of the Vietnamese version of the Brief Fear of Negative Evaluation scale (BFNE) in adults who stutter. *Speech, Language and Hearing*, 26(4), 299–306.

<https://doi.org/10.1080/2050571X.2023.2171955>

Nisy, A., & Yeylag, M. S. (2001). Training on expression of expression, self-esteem, social anxiety and mental health social anxious high school students in Ahwaz city. *Journal of Psychology and Education*, 3(1 & 2), 11-30.

Nordstrom, A. H., Goguen, L. M. S., & Hiester, M. (2014). The effect of social anxiety and self- esteem on college adjustment, academics, and retention. *Journal of College Counseling*, 17(1), 48-63.

<https://doi.org/10.1002/j.2161-1882.2014.00047.x>

Nunnally, B., & Bernstein, I. R. (1994). *Psychometric Theory*. Oxford University.

O'Donnell, M. B., Shirley, L. A., Park, S. S., Nolen, J. P., Gibbons, A. M., & Rosén, L. A. (2018). The college adjustment questionnaire: A measure of students' educational, relational, and psychological adjustment to the college environment. *Journal of College Student Development*, 59(1), 116-121.

<https://doi.org/10.1353/csd.2018.0009>

Osada, J., Rojas, M., Rosales, C., & Vega-Dienstmaier, J. M. (2010). Sintomatología ansiosa y depresiva en estudiantes de medicina. *Revista de Neuropsiquiatría*, 73(1), 15-19. <https://doi.org/10.20453/rnp.v73i1.1651>

Osa-Edoh, G. I., & Iyamu, F. I. (2012). Social life adjustment and academic achievement of adolescents in Edo State: implication for counselling. *Ozean Journal of Applied Sciences*, 5(2), 159-167.

Osse, C. M. C., & Costa, I. I. (2011). Saúde mental e qualidade de vida na moradia estudantil da Universidade de Brasília. *Estudos de Psicologia (Campinas)*, 28(1), 115-122. <https://doi.org/10.1590/S0103-166X2011000100012>

- Öst, L. G., Jerremalm, A., & Johansson, J. (1981). Individual response patterns and the effects of different behavioral methods in the treatment of social phobia. *Behaviour Research and Therapy*, 19(1), 1-16. [https://doi.org/10.1016/0005-7967\(81\)90107-8](https://doi.org/10.1016/0005-7967(81)90107-8)
- Oyefeso, A. (1991). Personality differences among five categories of student cannabis users. *Indian Journal of Behavior*, 15(4), 29-34.
- Pachankis, J. E., & Goldfried, M. R. (2006). Social anxiety in gay men. *Journal of Anxiety Disorders*, 20(8), 996-1015. <https://doi.org/10.1016/j.janxdis.2006.01.001>
- Parcover, J. A., Dunton, E. C., Gehlert, K. M., & Mitchell, S. L. (2006). Getting the most from group counseling in college counseling centers. *The Journal for Specialists in Group Work*, 31(1), 37-49. <https://doi.org/10.1080/01933920500341671>
- Parray, W. M., & Kumar, S. (2022). The effect of assertiveness training on behaviour, self esteem, stress, academic achievement and psychological well-being of students: A quasi-experimental study. *Research & Development*, 3(2), 83-90. <https://doi.org/10.11648/j.rd.20220302.13>
- Pitarch, M. J. G., Arbona, C. B., Castellano, S. Q., Rivera, R. M. B., & Palacios, A. G. (2007). Propiedades psicométricas de la Escala de Miedo a la Evaluación Negativa versión breve (BFNE) en muestra clínica. *Revista de Psicopatología y Psicología Clínica*, 12(3), 163-176. <https://doi.org/10.5944/rppc.vol.12.num.3.2007.4042>
- Płatos, M., Wojaczek, K., & Laugeson, E. A. (2023). Effects of social skills training for adolescents on the autism spectrum: A randomized controlled trial of the polish adaptation of the PEERS® intervention via hybrid and in-person delivery. *Journal of Autism and Developmental Disorders*, 53(11), 4132-4146. <https://doi.org/10.1007/s10803-022-05714-9>
- Pope, A., Hill, S. M., & Kryhd, E. (2006). *Increased self-respect in children and adolescents*. Translation: Parisa Tajali. Roshd Publishing.
- Prasko, J. (1996). *Asertivitou proti stresu* [Assertiveness against stress]. Grada.

- Pritchard, M. E., Wilson, G. S., & Yamnitz, B. (2007). What predicts adjustment among college students? A longitudinal panel study. *Journal of American College Health*, 56(1), 15-22. <https://doi.org/10.3200/JACH.56.1.15-22>
- Protinsky, H., & Gilkey, J. K. (1996). An empirical investigation of the construct of personality authority in late adolescent women and their level of college adjustment. *Adolescence*, 31(122), 291-295.
- Purdon, C., Antony, M., Monteiro, S., & Swinson, R. P. (2001). Social anxiety in college students. *Journal of Anxiety Disorders*, 15(3), 203-215. [https://doi.org/10.1016/S0887-6185\(01\)00059-7](https://doi.org/10.1016/S0887-6185(01)00059-7)
- Rajabi Jourshari, R., Mohammadi Arya, A., Alavizadeh, S. M., Entezari, S., Hosseinkhanzadeh, A. A., & Amirizadeh, S. M. (2022). Structural relationships between assertiveness and parenting styles with mediating self-esteem and anxiety of singleton children. *Iranian Rehabilitation Journal*, 20(4), 539-548. <http://dx.doi.org/10.32598/irj.20.4.1584.1>
- Rapee, R. M., & Spence, S. H. (2004). The etiology of social phobia: Empirical evidence and an initial model. *Clinical Psychology Review*, 24(7), 737-767. <https://doi.org/10.1016/j.cpr.2004.06.004>
- Raykov, T. (2008). Alpha if item deleted: A note on loss of criterion validity in scale development if maximizing coefficient alpha. *British Journal of Mathematical and Statistical Psychology*, 61(2), 275-285. <https://doi.org/10.1348/000711007X188520>
- Reich, J., Goldenberg, I., Vasile, R., Goisman, R., & Keller, M. (1994). A prospective follow-along study of the course of social phobia. *Psychiatry Research*, 54(3), 249-258. [https://doi.org/10.1016/0165-1781\(94\)90019-1](https://doi.org/10.1016/0165-1781(94)90019-1)
- Ribeiro, D. C., & Bolsoni-Silva, A. T. (2011). Potencialidades e dificuldades interpessoais de universitários: Estudo de caracterização [Potentialities and interpersonal difficulties of college students: A characterization study]. *Acta Comportamentalia*, 19(2), 205-224. http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S0188-81452011000200005&lng=pt&tlng=pt

- Rice, F. P. (1999). *The adolescent: Development, relationships and culture*. Allyn and Bacon.
- Ringle, C. M., Wende, S., & Becker, J. M. (2024). SmartPLS (Version 4) [Computer Software]. SmartPLS. <https://www.smartpls.com>
- Rinn, R. C., & Markle, A. (1979). Social skills deficits in children. In A. S. Bellack & M. Hersen (Eds.), *Research and practice in social skill training* (pp. 107-129). Plenum Press.
- Robinson, J. P., Shaver, P. R., & Wrightsman, L. S. (1991). Criteria for scale selection and evaluation. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes* (Vol. 1, pp. 1-16). Academic Press.
- Rocha, M. & Matos, P. M (2008). Adaptação do student adaptation to College Questionnaire (SACQ) a uma amostra de adolescentes de escolas regulares, profissionais e pólos de aprendizagem. *Psicologia, Educação e Cultura*, 12(1), 171-196. http://pec.ispgaya.pt/edicoes/2008/2008_vol_XII_n1.pdf#page=175
- Rodebaugh, T. L., Woods, C. M., Thissen, D. M., Heimberg, R. G., Chambless, D. L., & Rapee, R. M. (2004). More information from fewer questions: The factor structure and item properties of the original and Brief Fear of Negative Evaluation Scale. *Psychological Assessment*, 16(2), 169–181. <https://doi.org/10.1037/1040-3590.16.2.169>
- Rodrigue, J. R., Geffken, G. R., & Morgan, S. B. (1993). Perceived competence and behavioral adjustment of siblings of children with autism. *Journal of Autism and Developmental Disorders*, 23(4), 665-674. <https://doi.org/10.1007/BF01046108>
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press.
- Roth, M., Decker, O., Herzberg, P. Y., & Brähler, E. (2008). Dimensionality and norms of the Rosenberg Self-Esteem Scale in a German general population sample. *European Journal of Psychological Assessment*, 24(3), 190-197. <https://doi.org/10.1027/1015-5759.24.3.190>

- Ruscio, A. M., Brown, T. A., Chiu, W. T., Sareen, J., Stein, M.G., & Kessler, R.C. (2008). Social fears and social phobia in the USA: Results from the National Comorbidity Survey Replication. *Psychological Medicine*, 38(1), 15-28. <https://doi.org/10.1017/S0033291707001699>
- Russel, R. K., & Petrie, A. T. (1992). *Academic adjustment of college students assessment & counselling*. John Wiley & Sons, Inc.
- Salami, S. O. (2011). Psychosocial predictors of adjustment among first year college of education students. *US-China Education Review*, 8(2), 239-248. <https://files.eric.ed.gov/fulltext/ED519567.pdf>
- Sarkova, M., Bacikova-Sleskova, M., Orosova, O., Geckova, A. M., Katreniakova, Z., van den Heuvel, W., & van Dijk, J. P. (2003). The associations between assertiveness, psychological well-being and self-esteem in adolescents. *Journal of Applied Social Psychology*, 43(1), 147-154. <https://doi.org/10.1111/j.1559-1816.2012.00988.x>
- Schlenker, B., & Leary, M. (1982). Social anxiety and self-presentation: A conceptualization model. *Psychological Bulletin*, 92(3), 641-669. <https://psycnet.apa.org/doi/10.1037/0033-2909.92.3.641>
- Schneier, F. R., Johnson, J., Hornig, C. D., Liebowitz, M. R., & Weissman, M. M. (1992). Social phobia: Comorbidity and morbidity in an epidemiological sample. *Archives of General Psychiatry*, 49(4), 282-288. <https://doi.org/10.1001/archpsyc.1992.01820040034004>
- Segrin, C. (2008). Social skills training. In W. T. O'Donohue & J. E. Fisher (Eds.), *Cognitive behavioral therapy: Applying empirically supported techniques in your practice* (2nd ed., pp. 502-509). Wiley.
- Shand, F. L., Degenhardt, L., Nelson, E. C., & Mattick, R. P. (2010). Predictors of social anxiety in an opioid dependent sample and a control sample, *Journal of Anxiety Disorders*, 24(1), 49-54. <https://doi.org/10.1016/j.janxdis.2009.08.010>
- Sheffer, C. E., Penn, D. L., & Cassisi, J. E. (2001). The effects of impression management demands on heart rate, self-reported social anxiety, and social

- competence in undergraduate males. *Journal of Anxiety Disorders*, 15(3), 171-182. [https://doi.org/10.1016/S0887-6185\(01\)00057-3](https://doi.org/10.1016/S0887-6185(01)00057-3)
- Shepherd, R. (2006). Volitional strategies and social anxiety among college student. *College Quarterly*, 9(4). <https://files.eric.ed.gov/fulltext/EJ835423.pdf>
- Shepherd, R., & Edelman, R. J. (2009). The interrelationship of social anxiety with anxiety, depression, locus of control, ways of coping and ego strength amongst university students. *College Quarterly*, 12(2). <https://files.eric.ed.gov/fulltext/EJ889553.pdf>
- Shitavvagol, V. K., Shriharsha, C., & Natekar, D. S. (2022). Effectiveness of social skill training programme on social anxiety and self-esteem among adolescents. *International Journal of Science & Healthcare Research*, 7(1), 35-40. <https://doi.org/10.52403/ijshr.20220107>
- Soares, A. B., & Martins, J. S. R. (2010). Ansiedade dos estudantes diante da expectativa do exame vestibular. *Paidéia (Ribeirão Preto)*, 20(45), 57-62. <https://doi.org/10.1590/S0103-863X2010000100008>
- Soledad, R. G. M., Carolina, T. V., Adelina, G. C. M., Fernández, P., & Fernanda, M. (2012). The Student Adaptation to College Questionnaire (SACQ) for use with Spanish students. *Psychological Reports*, 111(2), 624-640. <https://doi.org/10.2466/08.10.20.PR0.111.5.624-640>
- Solomon, P., & Cullen, S. W. (2008). Psychiatric rehabilitation for achieving successful community living for adults with psychiatric disabilities. In A. Tasman, J. Kay, J. A. Lieberman, M. B. First, & M. Maj (Eds.), *Psychiatry* (3rd ed., pp. 2059-2082). Wiley-Blackwell.
- Stein, M. B. (2006). An epidemiologic perspective on social anxiety disorder [Supplemental material]. *Journal of Clinical Psychiatry*, 67(12), 3-8. <https://www.psychiatrist.com/read-pdf/6483/>
- Stopa, L., & Clark, D. M. (2000). Social phobia and interpretation of social events. *Behaviour Research and Therapy*, 38(3), 273-283. [https://doi.org/10.1016/S0005-7967\(99\)00043-1](https://doi.org/10.1016/S0005-7967(99)00043-1)

- Stopa, L., Brown, M. A., Luke, M. A., & Hirsch, C. R. (2010). Constructing a self: The role of self-structure and self-certainty in social anxiety. *Behaviour Research and Therapy*, 48(10), 955-965.
<https://doi.org/10.1016/j.brat.2010.05.028>
- Strahan, E. Y. (2003). The effects of social anxiety and social skills on academic performance. *Personality and Individual Differences*, 34(2), 347-366.
[https://doi.org/10.1016/S0191-8869\(02\)00049-1](https://doi.org/10.1016/S0191-8869(02)00049-1)
- Stravynski, A., Marks, I., & Yule, W. (1982). Social skills problems in neurotic outpatients: Social skill training with and without cognitive modification. *Archives of General Psychiatry*, 39(12), 1378-1385.
<https://doi.org/10.1001/archpsyc.1982.04290120014003>
- Survey Research Center. (2011). *Guidelines for Best Practice in Cross-Cultural Surveys*. Survey Research Center, Institute for Social Research, University of Michigan. <http://www.ccsr.isr.umich.edu/>
- Survey Research Center. (2016). *Guidelines for best practice in cross-cultural surveys*. Survey Research Center, Institute for Social Research, University of Michigan. <http://ccsr.isr.umich.edu/>
- Swami, V. (2011). Further examination of the psychometric properties of the Malay Rosenberg Self-Esteem Scale. In S. De Wals & K. Meszaros (Eds.), *Handbook on psychology of self-esteem* (pp. 371-380). Nova Science Publishers.
<https://westminsterresearch.westminster.ac.uk/item/q7z02/further-examination-of-the-psychometric-properties-of-the-malay-rosenberg-self-esteem-scale>
- Tao, S., Dong, Q., Pratt, M. W., Hunsberger, B., & Pancer, S. M. (2000). Social support: Relations to coping and adjustment during the transition to university in the People's Republic of China. *Journal of Adolescent research*, 15(1), 123-144. <https://doi.org/10.1177/0743558400151007>
- Tavoli, A., Melyani, M., Bakhtiari, M., Ghaedi, G. H., & Montazeri, A. (2009). The Brief Fear of Negative Evaluation Scale (BFNE): Translation and validation

- study of the Iranian version. *BMC Psychiatry*, 9(1), 1-6.
<https://doi.org/10.1186/1471-244X-9-42>
- Taylor, M. A., & Pastor, D. A. (2007). A confirmatory factor analysis of the Student Adaptation to College Questionnaire. *Educational and Psychological Measurement*, 67(6), 1002-1018. <https://doi.org/10.1177/0013164406299125>
- Temple, S., & Robson, P. (1991). The effect of assertiveness training on self-esteems. *British Journal of Occupational Therapy*, 54(9), 320-332.
<https://doi.org/10.1177/030802269105400904>
- Thompson, S., & Rapee, R. M. (2002). The effect of situational structure on the social performance of socially anxious and non-anxious participants. *Journal of Behavior Therapy and Experimental Psychiatry*, 33(2), 91-102.
[https://doi.org/10.1016/S0005-7916\(02\)00021-6](https://doi.org/10.1016/S0005-7916(02)00021-6)
- Tillfors, M., EL-Kouri, B., Stein, M. B., & Trost, K. (2009). Relationship between social anxiety, depressive symptoms and antisocial behaviors: Evidence from a prospective study of adolescent boys, *Journal of Anxiety Disorders*, 23(5), 718-724. <https://doi.org/10.1016/j.janxdis.2009.02.011>
- Todd, J., Barron, D., Aspell, J., Toh, E., Zahari, H., Khatib, N., & Swami, V. (2020). Translation and validation of a Bahasa Malaysia (Malay) version of the multidimensional assessment of interoceptive awareness (MAIA). *PLOS ONE*, 15(4), Article e0231048. <https://doi.org/10.1371/journal.pone.0231048>
- Trower, P. E., Bryant, B., & Argyle, M. (1978). *Social skills and mental health*. Methuen.
- Trower, P., Yardley, K., Bryant, B., & Shaw, P. (1978). The treatment of social failure: A comparison of anxiety reduction and skills-acquisition procedures on two social problems. *Behavior Modification*, 2(1), 41-60.
<https://doi.org/10.1177/014544557821003>
- Tuason, M. T., Carroll, L., Schutz, M., & Buchanan, S. (2023). From oppression to opportunity: a pilot study of an intervention program for vulnerable first generation college students. *Frontiers in Psychology*, 14, Article 1149746.
<https://doi.org/10.3389/fpsyg.2023.1149746>

- Turner, S. M., Beidel, D. C., & Cooley-Quille, M. R. (1995). Two-year follow-up of social phobics treated with social effectiveness therapy: Social effectiveness therapy. *Behaviour Research and Therapy*, 33(5), 553-555.
[https://doi.org/10.1016/0005-7967\(94\)00086-Y](https://doi.org/10.1016/0005-7967(94)00086-Y)
- Turner, S. M., Beidel, D. C., Cooley, M. R., Woody, S. R., & Messer, S. C. (1994). A multi-component behavioral treatment for social phobia: Social effectiveness therapy. *Behaviour Research and Therapy*, 32(4), 381-390.
[https://doi.org/10.1016/0005-7967\(94\)90001-9](https://doi.org/10.1016/0005-7967(94)90001-9)
- Turner, S. M., Biedel, D. C., Dancu, C. V., & Keys, D. J. (1986). Psychopathology of social phobia and comparison to avoidant personality disorder. *Journal of Abnormal Psychology*, 95(4), 389-394.
<https://psycnet.apa.org/doi/10.1037/0021-843X.95.4.389>
- University Grants Commission of Bangladesh. (2016). *UGC profile*. Retrieved from http://www.ugc.gov.bd/uploads/2017/publication/UGC_Profile-abcd-compres.pdf
- Urani, M. A., Miller, S. A., Johnson, J. E., & Petzel, T. P. (2003). Homesickness in socially anxious first year college students. *College Student Journal*, 37(3), 392-399.
- Valverde, B. S. C. L., Vitalle, M. S. S., Sampaio, I. P. C., & Schoen, T. H. (2012). Survey of behavioral/emotional problems in an adolescent outpatient service. *Paidéia (Ribeirão Preto)*, 22(53), 315-323. <https://doi.org/10.1590/S0103-863X2012000300003>
- Van Ameringen, M., Mancini, C., & Farvolden, P. (2003). The impact of anxiety disorders on educational achievement. *Journal of Anxiety Disorders*, 17(5), 561-571. [https://doi.org/10.1016/S0887-6185\(02\)00228-1](https://doi.org/10.1016/S0887-6185(02)00228-1)
- Van Dam-Baggen, C.M.J., & Kraaimaat, F.W. (1987). *Handleiding bij de Inventarisatielijst Omgaan met Anderen, de IOA [Manual of the inventory of interpersonal situations: IIS]*. Swets & Zeitlinger.
- Van Dam-Baggen, C.M.J., & Kraaimaat, F.W. (2000). *Inventarisatielijst Omgaan met Anderen (IOA). Handleiding (2e geheel herziene druk) [Inventory of*

interpersonal situations (IIS) manual (completely rev. 2nd ed.)). Swets & Zeitlinger.

Van Dam-Baggen, R., & Kraaimaat, F. (1986). A group social skills training program with psychiatric patients: Outcome, drop-out rate and prediction. *Behaviour Research and Therapy*, 4(2), 161-169. [https://doi.org/10.1016/0005-7967\(86\)90087-2](https://doi.org/10.1016/0005-7967(86)90087-2)

Van Dam-Baggen, R., & Kraaimaat, F. (1999). Assessing social anxiety: The Inventory of Interpersonal Situations (IIS). *European Journal of Psychological Assessment*, 15(1), 25-38.
<https://psycnet.apa.org/doi/10.1027/1015-5759.15.1.25>

Van Dam-Baggen, R., & Kraaimaat, F. (2000a). Group social skills training or cognitive group therapy as the clinical treatment of choice for generalized social phobia? *Journal of Anxiety Disorders*, 14(5), 437-451.
[https://doi.org/10.1016/S0887-6185\(00\)00038-4](https://doi.org/10.1016/S0887-6185(00)00038-4)

Van Dam-Baggen, R., & Kraaimaat, F. W. (2000b). Social skills training in two subtypes of psychiatric inpatients with generalized social phobia. *Scandinavian Journal of Behaviour Therapy*, 29(1), 14-21.
<https://doi.org/10.1080/028457100439836>

van de Vijver, F. J., Mohler, P. P., Harkness, J. A., & Harkness, J. (Eds.). (2003). *Cross-cultural survey methods*. John Wiley & Sons.

Vehr, B., & Kaufman, M. (1987). The effects of assertive training of performance in self-esteem. *Education of Visually Handicapped*, 12, 10-14.

Vyskocilova, J., & Prasko, J. (2012). Social skills training in psychiatry. *Activitas Nervosa Superior Rediviva*, 54(4), 159-170.
<http://www.rediviva.sav.sk/54i4/159.pdf>

Walde P and Völlm BA (2023) The TRAPD approach as a method for questionnaire translation. *Frontiers in Psychiatry* 14, Article 1199989.
<https://doi.org/10.3389/fpsy.2023.1199989>

- Watson, D., & Friend, R. (1969). Measurement of social-evaluative anxiety. *Journal of Consulting and Clinical Psychology*, 33(4), 448-457.
<https://doi.org/10.1037/h0027806>
- Weeks, J. W., Heimberg, R. G., Fresco, D. M., Hart, T. A., Turk, C. L., Schneier, F. R., & Liebowitz, M. R. (2005). Empirical validation and psychometric evaluation of the brief fear of negative evaluation scale in patients with social anxiety disorder. *Psychological Assessment*, 17(2), 179-190.
<https://doi.org/10.1037/1040-3590.17.2.179>
- Wei, J., Zhang, C., Li, Y., Xue, S., & Zhang, J. (2015). Psychometric properties of the Chinese version of the Fear of Negative Evaluation Scale-Brief (BFNE) and the BFNE-Straightforward for middle school students. *PLOS ONE*, 10(3), Article e0115948. <https://doi.org/10.1371/journal.pone.0115948>
- Wenzel, A., Graff-Dolezal, J., Macho, M., & Brendle, J. R. (2005). Communication and social skills in socially anxious and nonanxious individuals in the context of romantic relationships. *Behaviour Research and Therapy*, 43(4), 505-519.
<https://doi.org/10.1016/j.brat.2004.03.010>
- Wilkinson, J., & Canter, S. (1982). *Social skills training manual: Assessment, programme design, and management of training*. John Wiley & Sons.
- Wittchen, H. U., & Fehm, L. (2003). Epidemiology and natural course of social fears and social phobia [Supplemental material]. *Acta Psychiatrica Scandinavica*, 108(s417), 4-18. <https://doi.org/10.1034/j.1600-0447.108.s417.1.x>
- Wlazlo, Z., Schroeder-Hartwig, K., Hand, I., Kaiser, G., & Münchau, N. (1990). Exposure in vivo vs. social skills training for social phobia: Long-term outcome and differential effects. *Behaviour Research and Therapy*, 28(3), 181-193. [https://doi.org/10.1016/0005-7967\(90\)90001-Y](https://doi.org/10.1016/0005-7967(90)90001-Y)
- Wolpe, J. (1958). *Psychotherapy by reciprocal inhibition*. Stanford University Press.
- Wolpe, J. (1969). *The practice of behavior therapy*. Pergamon Press.
- Wolpe, J., & Lazarus, A. A. (1966). *Behavior therapy techniques*. Pergamon Press.

- Wolpe, J., & Lazarus, A. A. (1966). *Behavior therapy techniques: A guide to the treatment of neurosis*. Pergamon Press.
- Woody, S. R., & Adessky, R. S. (2002). Therapeutic alliance, group cohesion, and homework compliance during cognitive-behavioral group treatment for social phobia. *Behavior Therapy*, 33(1), 5-27. [https://doi.org/10.1016/S0005-7894\(02\)80003-X](https://doi.org/10.1016/S0005-7894(02)80003-X)
- World Health Organization. (1993). *Life skills training program*. Health and Addiction Prevention Unit.
- Wunderlich, U., Bronisch, T., & Wittchen, H. U. (1998). Comorbidity patterns in adolescents and young adults with suicide attempts. *European Archives of Psychiatry and Clinical Neuroscience*, 248, 87-95. <https://doi.org/10.1007/s004060050023>
- Yadav, P., & Iqbal, N. (2009). Impact of life skill training on self-esteem, adjustment and empathy among adolescents. *Journal of the Indian Academy of Applied Psychology*, 35(10), 61-70.
- Yonkers, K. A., Dyck, I. R., & Keller, M. B. (2001). An eight-year longitudinal comparison of clinical course and characteristics of social phobia among men and women. *Psychiatric Services*, 52(5), 637-643. <https://doi.org/10.1176/appi.ps.52.5.637>

Appendices

Appendix A: Consent Form

প্রিয় অংশগ্রহণকারী,

আমি, ইফরাত জাহান, ‘Effect of Social Skill Training on Social Anxiety, Self-Esteem and Adjustment of Students at the University Level’ নামে একটি গবেষণা পরিচালনা করছি। গবেষণাটির তত্ত্বাবধায়ক হলেন অধ্যাপক ড. মাহফুজা খানম, মনোবিজ্ঞান বিভাগ, ঢাকা বিশ্ববিদ্যালয় এবং এটি ঢাকা বিশ্ববিদ্যালয়ের জীববিজ্ঞান অনুষদের Ethical Review Committee দ্বারা অনুমোদিত। এই গবেষণায় আপনাকে চার সপ্তাহ ব্যাপী একটি সামাজিক দক্ষতার প্রশিক্ষণে অংশগ্রহণ করতে হবে। আপনার এই অংশগ্রহণ সম্পূর্ণ স্বতঃস্ফূর্ত এবং এ জন্য আপনাকে কোনো অর্থ প্রদান করা হবে না। সামাজিক দক্ষতার প্রশিক্ষণ শেষে তথ্য সংগ্রাহের পর আপনাকে একটি সনদ প্রদান করা হবে। উল্লেখ্য, এই গবেষণায় আপনার সরবরাহ করা ব্যক্তিগত তথ্য সম্পূর্ণ গোপন রাখা হবে।

আমাকে সহযোগিতা করার জন্য আপনার প্রতি আমি কৃতজ্ঞ।

ধন্যবাদান্তে-

ইফরাত জাহান

পিএইচডি গবেষক, মনোবিজ্ঞান বিভাগ, ঢাকা বিশ্ববিদ্যালয়; এবং

উপ-পরিচালক (মনোবিজ্ঞান), শিক্ষার্থী কল্যাণ ও পরামর্শদান কেন্দ্র, জাহাঙ্গীরনগর বিশ্ববিদ্যালয়।

মোবাইলঃ ০১৭১৭৩৩৮৫৭৫

সম্মতি

আমি, নিম্নস্বাক্ষরকারী, উপরোক্ত তথ্য পড়ে গবেষণার বিষয়বস্তু ও প্রকৃতি বুঝতে পেরেছি এবং এই গবেষণায় অংশগ্রহণ করতে সম্মতি দিচ্ছি।

গবেষণায় অংশগ্রহণকারীর নামঃ

স্বাক্ষর ও তারিখঃ

তথ্য সংগ্রহকারীর নামঃ

স্বাক্ষর ও তারিখঃ

Appendix B: Personal Information Form

[প্রযোজ্য ক্ষেত্রে টিক (✓) চিহ্ন দিন]

- শিক্ষা প্রতিষ্ঠানের নামঃ গ্রুপঃ ☐ ১ ☐ ২
- প্রতিষ্ঠানের ধরণঃ ☐ পাবলিক ☐ প্রাইভেট ☐ বিশ্ববিদ্যালয় অধিভুক্ত কলেজ
- বিভাগের নামঃ
- ব্যাচঃ রোল নম্বরঃ
- অধ্যয়নরত বর্ষঃ অথবা সেমিস্টারঃ
- সর্বশেষ পরীক্ষার ফলাফলঃ GPA/CGPA-
- আবাসস্থলঃ ☐ আবাসিক হল ☐ মেস ☐ বাসা
- লিঙ্গঃ ☐ ছেলে ☐ মেয়ে
- জন্ম তারিখঃ বয়সঃ
- বাবার শিক্ষাগত যোগ্যতা :
- মায়ের শিক্ষাগত যোগ্যতা :
- বাবার পেশা :
- মায়ের পেশা :
- পরিবারের আর্থ-সামাজিক অবস্থাঃ ☐ নিম্নবিত্ত ☐ নিম্ন মধ্যবিত্ত ☐ মধ্যবিত্ত ☐ উচ্চ ☐
- মধ্যবিত্ত উচ্চবিত্ত
- পরিবারের ধরণঃ ☐ একক পরিবার ☐ যৌথ পরিবার
- ধর্মঃ ☐ ইসলাম ☐ হিন্দু ☐ খ্রিস্টান ☐ বৌদ্ধ
- অধিকাংশ ক্ষেত্রে বড় হবার জায়গাঃ ☐ শহর ☐ মফস্বল ☐ গ্রাম
- মোবাইল নম্বরঃ

Appendix C: Session Structure of SST

প্রশিক্ষণের সেশন কাঠামো

[দুই ঘণ্টাব্যাপী প্রতি সপ্তাহে একদিন করে মোট চার দিন]

দিন	সময় (দুপুর)	প্রশিক্ষণের বিষয়বস্তু
প্রথম দিন	২:০০ -২:৩০	প্রশিক্ষণের উদ্বোধন
	২:৩০ -২:৫০	নির্দেশনাঃ অ-বাক্যিক আচরণ-১ (Non-Verbal Behavior-1) • দেহভঙ্গি (Posture) • হাঁটার ধরন (Gait) • ব্যক্তিগত প্রকাশভঙ্গি (Appearance) • আকার-ইঙ্গিত (Gesture)
	২:৫০ -৩:১০	আচরণ অনুশীলন-১ (Behavior Rehearsal-1)
	৩:১০-৩:২০	চা বিরতি
	৩:২০- ৩:৩০	নির্দেশনাঃ অ-বাক্যিক আচরণ-২ (Non-Verbal Behavior-2) • নৈকট্য (Proximity) • চেহারার প্রকাশ (Facial Expression) • চোখের দিকে তাকানো (Eye Contact) • কণ্ঠস্বরের সংকেত (Vocul Cues)
	৩:৩০- ৩:৫০	আচরণ অনুশীলন-২ (Behavior Rehearsal-2)
	৩:৫০- ৪:০০	মাসকুলার রিল্যাক্সেশন
দ্বিতীয় দিন	২:০০ -২:১৫	ইতিবাচক ঘটনা বলা (Positive Event Report)
	২:১৫ -২:২৫	বাড়ির কাজের মূল্যায়ন (Home Work Feedback)
	২:২৫ -২:৪০	নির্দেশনাঃ বাক্যিক আচরণ- ১ (Verbal Behavior-1) • শোনা (Listening) • অন্যকে বলতে উৎসাহিত করা (Encourage Other to Talk) • প্রশ্ন জিজ্ঞাসা করা (Asking Questions)
	২:৪০ -৩:০০	আচরণ অনুশীলন-৩ (Behavior Rehearsal-3)
	৩:০০-৩:১০	চা বিরতি
	৩:১০-৩:২৫	নির্দেশনাঃ বাক্যিক আচরণ-২ (Verbal Behavior-2) • কথা বলা (Talking) • আলোচনা শুরু করা (Opening Conversation) • আলোচনা চালিয়ে যাওয়া (Maintaining Conversation) • আলোচনা শেষ করা (Closing Conversation)
	৩:২৫-৩:৪০	আচরণ অনুশীলন-৪ (Behavior Rehearsal-4)
	৩:৪০- ৪:০০	মাসকুলার রিল্যাক্সেশন

দিন	সময়(সকাল)	প্রশিক্ষণের বিষয়বস্তু
তৃতীয় দিন	২:০০ -২:১৫	ইতিবাচক ঘটনা বলা (Positive Event Report)
	২:১৫ -২:২৫	বাড়ির কাজের মূল্যায়ণ (Home Work Feedback)
	২:২৫ -২:৪০	নির্দেশনাঃ অ্যাসারটিভ আচরণ-১ (Assertive Behavior-1) নিজের অধিকার অক্ষুণ্ণ রাখতে দৃঢ় হওয়া (Standing Up for Your Rights)
	২:৪০ -৩:০০	আচরণ অনুশীলন-৫ (Behavior Rehearsal-5)
	৩:০০-৩:১০	চা বিরতি
	৩:১০-৩:২৫	নির্দেশনাঃ অ্যাসারটিভ আচরণ-২ (Assertive Behavior-2) - কাউকে অনুরোধ করা (Making a Request) - প্রত্যাক্ষান মেনে নেয়া (Coping with Refusal) - অনুরোধ গ্রহণ করা (Accepting a Request) - অনুরোধ প্রত্যাখ্যান করা (Refusing a Request)
	৩:২৫-৩:৪০	আচরণ অনুশীলন-৬ (Behavior Rehearsal-6)
	৩:৪০- ৪:০০	মাসকুলার রিল্যাক্সেশন
চতুর্থ দিন	২:০০ -২:১৫	ইতিবাচক ঘটনা বলা (Positive Event Report)
	২:১৫ -২:২৫	বাড়ির কাজের মূল্যায়ণ (Home Work Feedback)
	২:২৫ -২:৪০	নির্দেশনাঃ অ্যাসারটিভ আচরণ-৩ (Assertive Behavior-3) - কাউকে প্রশংসা করা (Paying Compliments) - প্রশংসা নেয়া (Receiving Compliments) - স্নেহ দেখানো (Showing Affection)
	২:৪০ -৩:০০	আচরণ অনুশীলন-৭ (Behavior Rehearsal-7)
	৩:০০-৩:১০	চা বিরতি
	৩:১০-৩:২৫	সামাজিক দক্ষতা সম্পর্কিত বিভিন্ন সমস্যা নিয়ে আলোচনা
	৩:২৫-৩:৪০	রিল্যাক্সেশন
	৩:৪০- ৪:০০	বিদায়পর্ব

Appendix D: Bangla Version of Severity Measure for Social Anxiety Disorder (Social Phobia)-Adult

নির্দেশনাঃ বিভিন্ন সামাজিক পরিস্থিতিতে আপনি যে চিন্তাভাবনা, অনুভূতি প্রকাশ বা আচরণ করেন নিম্নে সে সম্পর্কে কিছু প্রশ্নমালা রয়েছে। সাধারণত সামাজিক পরিস্থিতি বলতে- পাবলিক প্লেসে কথা বলা, মিটিংয়ে কথা বলা, সামাজিক অনুষ্ঠান বা পার্টিতে যোগ দেওয়া, অন্যদের সাথে পরিচিত হওয়া, কথোপকথন করা, প্রশংসা করা ও গ্রহণ করা, অন্যদের অনুরোধ করা এবং জনসমক্ষে খাওয়া ইত্যাদি পরিস্থিতিকে বোঝায়। প্রতিটি উক্তির ক্ষেত্রে বিগত সাত দিনের মধ্যে আপনি কী পরিমাণ বিভিন্ন লক্ষণ নিজের মধ্যে অনুভব করেছেন তা পাঁচটি অপশনের মধ্যে থেকে আপনার ক্ষেত্রে প্রযোজ্য অপশনটিতে টিক চিহ্ন দিন।

ক্রমিক	গত ৭ দিনের মধ্যে	কখনো না	মাঝে মাঝে	অধিক সময়	অধিকাংশ সময়	সব সময়
১।	সামাজিক পরিস্থিতিতে আমি হঠাৎ আতঙ্কিত, ভীত বা ঘাবড়িয়ে গিয়েছিলাম।					
২।	সামাজিক পরিস্থিতি নিয়ে আমি চিন্তিত, উদ্বিগ্ন বা নার্ভাসবোধ করেছিলাম।					
৩।	সামাজিক পরিস্থিতিতে আমার মধ্যে বিব্রত বা উপহাসের পাত্র হওয়ার চিন্তা কাজ করেছিলো।					
৪।	সামাজিক পরিস্থিতিতে আমি হৃদস্পন্দনের গতিবৃদ্ধি, ঘেমে যাওয়া এবং শ্বাসকষ্ট অনুভব করেছিলাম।					
৫।	সামাজিক পরিস্থিতিতে আমি পেশির টান এবং অস্থিরতা অনুভব করেছিলাম।					
৬।	আমি বিভিন্ন সামাজিক পরিস্থিতি এড়িয়ে গিয়েছিলাম।					
৭।	আমি বিভিন্ন সামাজিক পরিস্থিতি থেকে তাড়াতাড়ি চলে এসেছিলাম বা সামান্য অংশগ্রহণ করেছিলাম।					
৮।	সামাজিক পরিস্থিতিতে কী বলতে হবে বা কীভাবে কাজ করতে হবে তা নিয়ে আমি অনেক সময় ব্যয় করেছিলাম।					
৯।	সাধারণত আমি সামাজিক পরিস্থিতি নিয়ে চিন্তা এড়ানোর জন্য নিজের মনকে অন্যত্র সরিয়ে রেখেছিলাম।					
১০।	সামাজিক পরিস্থিতির সাথে খাপ খাওয়ানোর জন্য আমার বাড়তি সাহায্যের প্রয়োজন পড়ে (যেমন- সিগারেট, ঔষধ, ঝাড়ফুক বা প্রচলিত টোটকা)।					

Appendix E-1: Brief Fear of Negative Evaluation Scale: English Version

Read each of the following statements carefully and indicate how characteristic it is of you according to the following scale:

SL	Statements	Not at all characteri- stics of me	Slightly Charac- teristics of me	Modera- -tely Charact- -eristics of me	Very Charac- teristics of me	Extremely Characteri- -stics of me
1	I worry about what other people will think of me even when I know it doesn't make any difference.					
2	I am unconcerned even if I know people are forming an unfavorable impression of me.					
3	I am frequently afraid of other people noticing my shortcomings.					
4	I rarely worry about what kind of impression I am making on someone.					
5	I am afraid others will not approve of me.					
6	I am afraid that people will find fault with me.					
7	Other people's opinions of me do not bother me.					
8	When I am talking to someone, I worry about what they may be thinking about me.					
9	I am usually worried about what kind of impression I make.					
10	If I know someone is judging me, it has little effect on me.					
11	Sometimes I think I am too concerned with what other people think of me.					
12	I often worry that I will say or do the wrong things.					

Appendix E-2: Brief Fear of Negative Evaluation Scale:**Final Adapted Bangla Version**

নিচের বিবৃতিগুলো মনোযোগ সহকারে পড়ুন এবং বৈশিষ্ট্যগুলো আপনার ক্ষেত্রে কীভাবে প্রযোজ্য তা নির্দেশ করুন।

ক্রমিক	বিবৃতিসমূহ	একেবারেই প্রযোজ্য নয়	কিছুটা প্রযোজ্য	মাঝামাঝি ধরনের প্রযোজ্য	অনেকখানি প্রযোজ্য	পুরোপুরি প্রযোজ্য
১।	অন্যরা আমাকে নিয়ে কী ভাবে তা নিয়ে আমি উদ্ভিন্ন থাকি।					
২।	অন্যরা আমার ক্রটি দিকে নজর দিচ্ছে ভেবে আমি সারাক্ষণ ভয়ে থাকি।					
৩।	অন্যরা আমাকে গ্রহণ করবেনা ভেবে আমি ভয়ে থাকি।					
৪।	অন্যরা আমার দোষ খুঁজে পাবে ভেবে আমি ভয়ে থাকি।					
৫।	আমার সম্পর্কে অন্যদের মতামত আমাকে বিরত করে না।					
৬।	কারো সঙ্গে কথা বলার সময় তারা আমার সম্পর্কে কী ভাবে তা নিয়ে আমি উদ্ভিন্ন থাকি।					
৭।	অন্যের সামনে নিজেকে উপস্থাপন করা নিয়ে আমি সাধারণত উদ্ভিন্ন থাকি।					
৮।	যদিও আমি জানি কেউ আমাকে বিচার বা মূল্যায়ন করছে, তবু তা আমার উপর খুব কম প্রভাব ফেলে।					
৯।	অন্যরা আমাকে নিয়ে কী ভাবে তা নিয়ে আমি খুব উদ্ভিন্ন থাকি।					
১০।	ভুল বলব বা ভুল কাজ করব ভেবে আমি প্রায়ই উদ্ভিন্ন থাকি।					

Appendix F-1: Inventory of Interpersonal Situation (Discomfort & Frequency): English Version

Instructions for Part 1: Discomfort

This inventory consists of a number of interpersonal situations. Please indicate the degree of discomfort you would experience in each of these situations. Take your time when you work from one situation to the next. There is no right or wrong answers; it is rather your opinion that matters.

SL	Statements	None	A little	A fair amount	Much	Very Much
1	Joining a conversation of a small group of people					
2	Telling a friend that he/she is doing something that bothers you					
3	Resisting pressure to accept an offer (for example, at the door, in the street)					
4	Accepting a compliment for something you did					
5	Asking a friend to help you with something					
6	Requesting the return of something you have lent to someone					
7	Turning down a request to lend someone money					
8	Refusing a request from an authority figure (e.g., employer, superior, teacher)					
9	Telling someone that you are pleased with what he/she did for you					
10	Asking someone to stop bothering you in a public place (theater, subway)					
11	Maintaining eye contact during a conversation					
12	Asking for information (at a window or booth)					
13	Initiating a conversation with an attractive male/female					
14	Expressing an opinion that differs from that of the person with whom you are talking					
15	Initiating a conversation with a stranger					
16	Expressing an opinion that differs from that of those around you					

17	Complimenting someone for a job well done					
18	Returning a defective item (for example, in a store or restaurant)					
19	Asking for a further explanation about something you did not understand					
20	Expressing your opinion in a conversation with a group of unfamiliar people					
21	Telling someone that he/she offended you					
22	Refusing a request from a person you like					
23	Expressing your appreciation for a present					
24	Telling someone that he/she is good looking					
25	Discussing why someone seems to avoid you					
26	Telling someone that you like it that he or she appreciates you					
27	Agreeing with a compliment about your looks					
28	Telling someone that you are pleased with something you did					
29	Initiating a conversation with a stranger					
30	Expressing your opinion of life					
31	Telling someone you no longer want to see him/her					
32	Insisting that someone contributes his/her share					
33	Telling someone that the way he/she is talking disturbs you					
34	Expressing your opinion to an authority figure (e. g., employer, superior, teacher)					
35	Asking a friend to go out with you					

Instructions for Part 2: Frequency of Occurrence

In this part you will find the same 35 interpersonal situations as described in Part 1. This time you are to indicate how often you behave as described in the situations. Take your time when you work from one situation to the next. There is no right or wrong answers; it is rather your opinion that matters.

SL	Statements	Never	Seldom	Someti mes	Often	Always
1	Joining a conversation of a small group of people					
2	Telling a friend that he/she is doing something that bothers you					
3	Resisting pressure to accept an offer (for example, at the door, in the street)					
4	Accepting a compliment for something you did					
5	Asking a friend to help you with something					
6	Requesting the return of something you have lent to someone					
7	Turning down a request to lend someone money					
8	Refusing a request from an authority figure (e. g., employer, superior, teacher)					
9	Telling someone that you are pleased with what he/she did for you					
10	Asking someone to stop bothering you in a public place (theater, subway)					
11	Maintaining eye contact during a conversation					
12	Asking for information (at a window or booth)					
13	Initiating a conversation with an attractive male/female					
14	Expressing an opinion that differs from that of the person with whom you are talking					
15	Initiating a conversation with a stranger					
16	Expressing an opinion that differs from that of those around you					
17	Complimenting someone for a job well done					
18	Returning a defective item (for example, in a store or restaurant)					
19	Asking for a further explanation about something you did not understand					

20	Expressing your opinion in a conversation with a group of unfamiliar people					
21	Telling someone that he/she offended you					
22	Refusing a request from a person you like					
23	Expressing your appreciation for a present					
24	Telling someone that he/she is good looking					
25	Discussing why someone seems to avoid you					
26	Telling someone that you like it that he or she appreciates you					
27	Agreeing with a compliment about your looks					
28	Telling someone that you are pleased with something you did					
29	Initiating a conversation with a stranger					
30	Expressing your opinion of life					
31	Telling someone you no longer want to see him/her					
32	Insisting that someone contributes his/her share					
33	Telling someone that the way he/she is talking disturbs you					
34	Expressing your opinion to an authority figure (e. g., employer, superior, teacher)					
35	Asking a friend to go out with you					

Appendix F-2: Inventory of Interpersonal Situation (Discomfort & Frequency):**Final Adapted Bangla Version****অস্বস্তি বোধের ক্ষেত্রে:**

এই প্রশ্নমালা কতগুলো আন্তঃব্যক্তিক পরিস্থিতি নিয়ে গঠিত হয়েছে। প্রতিটি পরিস্থিতিতে আপনার যে অভিজ্ঞতা হয়েছে তার উপর ভিত্তি করে আপনি কী মাত্রায় অস্বস্তি বোধ করেছেন তা এই প্রশ্নমালায় টিক (✓) চিহ্নের মাধ্যমে প্রকাশ করুন। একটি পরিস্থিতি সম্পূর্ণ করে অন্যটিতে যেতে কিছু সময় নিন। এখানে কোনো সঠিক বা ভুল উত্তর নেই; বরং এক্ষেত্রে আপনার মতামতটাই গুরুত্বপূর্ণ।

ক্রমিক	বিবৃতিসমূহ	একেবারেই হয় না	খুব সামান্য হয়	মোটামুটি হয়	বেশি হয়	অনেক বেশি হয়
১।	কোনো কাজ করার পর অন্যের প্রশংসা গ্রহণ করা।					
২।	আপনি কাউকে কিছু ধার দেওয়ার পর তাকে তা ফেরত দেওয়ার জন্য অনুরোধ করা।					
৩।	কেউ টাকা ধার চেয়ে অনুরোধ করলে তা প্রত্যাখ্যান করা।					
৪।	উর্ধ্বতন কোনো ব্যক্তির (যেমন-শিক্ষক, উচ্চতর পদে অবস্থানরত ব্যক্তি বা নিয়োগকর্তা) অনুরোধ প্রত্যাখ্যান করা।					
৫।	কারো কাজে আপনার সন্তুষ্টি প্রকাশ করে কিছু বলা।					
৬।	অন্যের সঙ্গে কথোপকথনের সময় চোখের দৃষ্টি বিনিময় করা।					
৭।	তথ্যকেন্দ্রে বা বুথে কোনো তথ্য জানতে চাওয়া।					
৮।	কোনো আকর্ষণীয় পুরুষ/ মহিলার সাথে নিজ উদ্যোগে কথোপকথন শুরু করা।					
৯।	আপনি যার সাথে কথা বলছেন তার কাছে আপনার ভিন্নমত প্রকাশ করা।					
১০।	অপরিচিত কোনো ব্যক্তির সাথে নিজ উদ্যোগে কথোপকথন শুরু করা।					
১১।	আপনার আশেপাশের ব্যক্তিদের কাছে আপনার ভিন্নমত প্রকাশ করা।					
১২।	কাউকে তার ভালো কাজের জন্য প্রশংসা করা।					
১৩।	আপনি কোনো বিষয় বুঝতে না পারলে সে বিষয়ে বিস্তারিত ব্যাখ্যা জানতে চাওয়া।					
১৪।	একদল অচেনা মানুষের সাথে কথোপকথনের সময় আপনার নিজস্ব মতামত প্রকাশ করা।					
১৫।	আপনি কারো আচরণে কষ্ট পেলে তা তাকে বলা।					
১৬।	আপনার পছন্দের কোনো মানুষের অনুরোধ প্রত্যাখ্যান করা।					

১৭।	উপহারের জন্য ইতিবাচক অনুভূতি প্রকাশ করা।					
১৮।	কাউকে দেখতে সুন্দর লাগলে তা তাকে বলা।					
১৯।	কেউ আপনাকে এড়িয়ে চলছে বলে মনে হলে সে বিষয়ে তার সঙ্গে আলোচনা করা।					
২০।	কেউ আপনার কাজের প্রশংসা করলে আপনি যে তা পছন্দ করছেন তা তাকে বলা।					
২১।	আপনাকে দেখতে ভালো লাগছে, কেউ এমন প্রশংসা করলে তাতে সম্মতি জানানো।					
২২।	আপনার কোনো কাজ সম্পর্কে সন্তুষ্টির কথা অন্যকে বলা।					
২৩।	অন্যের সাথে নিজে থেকে পরিচিত হওয়া।					
২৪।	কাউকে এমন বলা যে, আপনি তার সাথে আর দেখা করতে চান না।					
২৫।	কাউকে দৃঢ়ভাবে বলা যে, সে যেন তার উপর অর্পিত দায়িত্ব পালন করে।					
২৬।	কাউকে বলা যে, সে যেভাবে কথা বলছে তা আপনার কাছে বিরক্তিকর।					
২৭।	উর্ধ্বতন কোনো ব্যক্তির (যেমন-শিক্ষক বা উচ্চতর পদে অবস্থানরত ব্যক্তি) কাছে নিজের মতামত প্রকাশ করা।					
২৮।	আপনার সাথে বেড়াতে যাওয়ার জন্য বন্ধুকে অনুরোধ করা।					

ঘটনা ঘটান পরিমাণের ক্ষেত্রে

এই প্রশ্নমালা কতগুলো আন্তঃব্যক্তিক পরিস্থিতি নিয়ে গঠিত হয়েছে। প্রতিটি পরিস্থিতিতে আপনার যে অভিজ্ঞতা হয়েছে তার উপর ভিত্তি করে আপনি কতবার ঐ পরিস্থিতির সম্মুখীন হয়েছেন তা এই প্রশ্নমালায় টিক (✓) চিহ্নের মাধ্যমে প্রকাশ করুন। একটি পরিস্থিতি সম্পূর্ণ করে অন্যটিতে যেতে কিছু সময় নিন। এখানে কোনো সঠিক বা ভুল উত্তর নেই; বরং এক্ষেত্রে আপনার মতামতটাই গুরুত্বপূর্ণ।

ক্রমিক	বিবৃতিসমূহ	কখনো না	কদাচিত	কখনো কখনো	অনেকবার	সর্বদা
১।	কোনো কাজ করার পর অন্যের প্রশংসা গ্রহণ করা।					
২।	আপনি কাউকে কিছু ধার দেওয়ার পর তাকে তা ফেরত দেওয়ার জন্য অনুরোধ করা।					
৩।	কেউ টাকা ধার চেয়ে অনুরোধ করলে তা প্রত্যাখ্যান করা।					
৪।	উর্ধ্বতন কোনো ব্যক্তির (যেমন-শিক্ষক, উচ্চতর পদে অবস্থানরত ব্যক্তি বা নিয়োগকর্তা) অনুরোধ প্রত্যাখ্যান করা।					
৫।	কারো কাজে আপনার সন্তুষ্টি প্রকাশ করে কিছু বলা।					
৬।	অন্যের সঙ্গে কথোপকথনের সময় চোখের দৃষ্টি বিনিময় করা।					
৭।	তথ্যকেন্দ্রে বা বুথে কোনো তথ্য জানতে চাওয়া।					
৮।	কোনো আকর্ষণীয় পুরুষ/ মহিলার সাথে নিজ উদ্যোগে কথোপকথন শুরু করা।					
৯।	আপনি যার সাথে কথা বলছেন তার কাছে আপনার ভিন্নমত প্রকাশ করা।					
১০।	অপরিচিত কোনো ব্যক্তির সাথে নিজ উদ্যোগে কথোপকথন শুরু করা।					
১১।	আপনার আশেপাশের ব্যক্তিদের কাছে আপনার ভিন্নমত প্রকাশ করা।					
১২।	কাউকে তার ভালো কাজের জন্য প্রশংসা করা।					
১৩।	আপনি কোনো বিষয় বুঝতে না পারলে সে বিষয়ে বিস্তারিত ব্যাখ্যা জানতে চাওয়া।					
১৪।	একদল অচেনা মানুষের সাথে কথোপকথনের সময় আপনার নিজস্ব মতামত প্রকাশ করা।					
১৫।	আপনি কারো আচরণে কষ্ট পেলে তা তাকে বলা।					
১৬।	আপনার পছন্দের কোনো মানুষের অনুরোধ প্রত্যাখ্যান করা।					
১৭।	উপহারের জন্য ইতিবাচক অনুভূতি প্রকাশ করা।					
১৮।	কাউকে দেখতে সুন্দর লাগলে তা তাকে বলা।					
১৯।	কেউ আপনাকে এড়িয়ে চলছে বলে মনে হলে সে বিষয়ে তার সঙ্গে আলোচনা করা।					

২০।	কেউ আপনার কাজের প্রশংসা করলে আপনি যে তা পছন্দ করছেন তা তাকে বলা।					
২১।	আপনাকে দেখতে ভালো লাগছে, কেউ এমন প্রশংসা করলে তাতে সম্মতি জানানো।					
২২।	আপনার কোনো কাজ সম্পর্কে সন্তুষ্টির কথা অন্যকে বলা।					
২৩।	অন্যের সাথে নিজে থেকে পরিচিত হওয়া।					
২৪।	কাউকে এমন বলা যে, আপনি তার সাথে আর দেখা করতে চান না।					
২৫।	কাউকে দৃঢ়ভাবে বলা যে, সে যেন তার উপর অর্পিত দায়িত্ব পালন করে।					
২৬।	কাউকে বলা যে, সে যেভাবে কথা বলছে তা আপনার কাছে বিরজিকর।					
২৭।	উর্ধ্বতন কোনো ব্যক্তির (যেমন-শিক্ষক বা উচ্চতর পদে অবস্থানরত ব্যক্তি) কাছে নিজের মতামত প্রকাশ করা।					
২৮।	আপনার সাথে বেড়াতে যাওয়ার জন্য বন্ধুকে অনুরোধ করা।					

[illegible]

EFFECT OF SOCIAL SKILL TRAINING

247

20	I haven't been able to control my emotions very well lately								
21	I'm not really smart enough for the academic work I am expected to be doing now								
22	Lonesomeness for home is a source if difficulty for me now								
23	Getting a college degree is very important to me								
24	My appetite has been good lately								
25	I haven't been very efficient in the use of study time lately								
26	I enjoy living in college dormitory (Please omit if you're not living in any university housing)								
27	I enjoy writing papers for courses								
28	I have been having a lot of headaches lately								
29	I really haven't been having much motivation for studying lately								
30	I am satisfied with the extracurricular activities available at college								
31	I've given a lot of thought lately to whether I should ask for help from Counseling and Psychological Services or from a psychotherapist outside of college								
32	Lately, I have been having doubts regarding the value of a college education								
33	I am getting along very well with my roommate(s) in college (Please omit if you don't have a roommate)								
34	I wish I were at another college or university								
35	I've put on or lost too much weight lately								
36	I am satisfied with the number and variety of courses available at college								
37	I feel that I have enough social skills to get along well in the college setting								
38	I have been getting angry too easily lately								
39	Recently, I have been having trouble concentrating when I try to study								
40	I haven't been sleeping very well								
41	I'm not doing well enough academically for the amount of work I put in								

42	I'm having difficulty feeling at ease with other people at colleges								
43	I am satisfied with the quality or the caliber of courses available at college								
44	I am attending classes regularly								
45	Sometimes, my thinking gets muddled up too easily								
46	I am satisfied with the extent to which I am participating in social activities at college								
47	I expect to stay at this college for a bachelor's degree								
48	I haven't been mixing too well with the opposite sex lately								
49	I worry a lot about my college expenses								
50	I am enjoying my academic work at college								
51	I have been feeling lonely a lot at college lately								
52	I am having a lot of trouble getting started on homework assignments								
53	I feel I have good control over my life situation at college								
54	I am satisfied with my program of courses this semester								
55	I have been feeling in good health lately								
56	I feel I am very different from other students at college in ways that I don't like								
57	On balance, I would rather be home than here								
58	Most of the things I am interested in are not related to any of my course work at college								
59	Lately, I have been giving a lot of thought to transferring to another college								
60	Lately, I have been giving a lot of thought to dropping out of college altogether and for good								
61	I find myself giving considerable thought to taking time off from college and finishing later								
62	I am very satisfied with the professors								

[illegible]

[illegible]

Appendix H-1: Bangla Version (Ilyas, 2003) of Rosenberg Self-Esteem Scale

আপনি নিজেকে কিভাবে দেখেন তা পরিমাপ করার জন্য নিম্নোক্ত বিবৃতি সমূহ তৈরি করা হয়েছে। প্রতিটি বিবৃতি যত্নসহকারে পড়ে আপনার অনুভূতির মাত্রা নির্দেশ করুন। যে বিবৃতিটি আপনার অনুভূতি বা মতামতকে সবচেয়ে ভালোভাবে বর্ণনা করে সেটিতে টিক (✓) চিহ্ন দিন।

বিবৃতি সমূহ		সম্পূর্ণরূপে একমত	একমত	একমত নই	একেবারেই একমত নই
১।	অন্যদের সাথে সমান মাপকাঠিতে বিচার করলে আমি মনে করি আমি একজন যোগ্য ব্যক্তি।				
২।	আমি মনে করি আমার বেশকিছু ভাল গুণ আছে।				
৩।	সামগ্রিক বিচারে আমার মনে হয় যে আমি ব্যর্থ।				
৪।	বেশিরভাগ লোকের মত আমিও বিভিন্ন কাজ করতে সক্ষম।				
৫।	আমার মনে হয় গর্ব করার মত আমার বেশি কিছু নেই।				
৬।	আমি নিজের সম্পর্কে ইতিবাচক মনোভাব পোষণ করি।				
৭।	সামগ্রিকভাবে আমি নিজেকে নিয়ে সন্তুষ্ট।				
৮।	আমার ইচ্ছে হয় নিজেকে যদি আমি আরো বেশি সম্মান করতে পারতাম।				
৯।	মাঝে মাঝে নিশ্চিতভাবে মনে হয় আমার কোন মূল্য নেই।				
১০।	মাঝে মাঝে আমার মনে হয় আমি কোন কাজের নই।				

**Appendix H-2: Bangla Version (Ilyas, 2003) of Rosenberg Self-Esteem Scale:
Validated Bangla Version**

আপনি নিজেকে কিভাবে দেখেন তা পরিমাপ করার জন্য নিম্নোক্ত বিবৃতি সমূহ তৈরি করা হয়েছে। প্রতিটি বিবৃতি যত্নসহকারে পড়ে আপনার অনুভূতির মাত্রা নির্দেশ করুন। যে বিবৃতিটি আপনার অনুভূতি বা মতামতকে সবচেয়ে ভালোভাবে বর্ণনা করে সেটিতে টিক (✓) চিহ্ন দিন।

	বিবৃতি সমূহ	সম্পূর্ণরূপে একমত	একমত	একমত নই	একেবারেই একমত নই
১।	সামগ্রিক বিচারে আমার মনে হয় যে আমি ব্যর্থ।				
২।	আমার মনে হয় গর্ব করার মত আমার বেশি কিছু নেই।				
৩।	আমি নিজের সম্পর্কে ইতিবাচক মনোভাব পোষণ করি।				
৪।	সামগ্রিকভাবে আমি নিজেকে নিয়ে সন্তুষ্ট।				
৫।	মাঝে মাঝে নিশ্চিতভাবে মনে হয় আমার কোন মূল্য নেই।				
৬।	মাঝে মাঝে আমার মনে হয় আমি কোন কাজের নই।				

Appendix I: Ethical Clearance Certificate

উন অফিস
জীববিজ্ঞান অনুষদ
ঢাকা বিশ্ববিদ্যালয়, ঢাকা-১০০০, বাংলাদেশ



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Ref. No. 203/Biol. Scs.

December 20, 2022

Ethical Review Committee

Professor Dr. Mahfuza Khanam
Department of Psychology
University of Dhaka

Sub: Ethical Clearance.

Dear Professor Dr. Mahfuza Khanam,

With reference to your application on the above subject, this is to inform you that your research proposal entitled “Effect of Social Skill Training on Social Anxiety, Self-Esteem and Adjustment of Students at the University Level” has been reviewed and approved by the Ethical Review Committee of the Faculty of Biological Sciences, University of Dhaka.

I wish for the success of your research project.

Professor Dr. A K M Mahbub Hasan
Dean, Faculty of Biological Sciences
University of Dhaka

Appendix J: Similarity Index Report

Effect of Social Skill Training on Social Anxiety, Self-Esteem and Adjustment of Students at the University Level

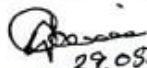
ORIGINALITY REPORT

4%

SIMILARITY INDEX

PRIMARY SOURCES

- | | | |
|---|--|------------------|
| 1 | www.mdpi.com
<small>Internet</small> | 321 words — 1% |
| 2 | mafiadoc.com
<small>Internet</small> | 195 words — < 1% |
| 3 | onlinelibrary.wiley.com
<small>Internet</small> | 115 words — < 1% |
| 4 | www.researchgate.net
<small>Internet</small> | 113 words — < 1% |
| 5 | repository.library.du.ac.bd:8080
<small>Internet</small> | 106 words — < 1% |
| 6 | Vassilis H. Aletras. "Valuation and Preliminary Validation of the Greek 15D in a Sample of Patients with Coronary Artery Disease", Value in Health, 06/2009
<small>Crossref</small> | 97 words — < 1% |
| 7 | www.ncbi.nlm.nih.gov
<small>Internet</small> | 88 words — < 1% |
| 8 | Rien van Dam-Baggen, Floris Kraaiaam. "Group Social Skills Training or Cognitive Group Therapy | 74 words — < 1% |


29.05.24
Prof. Dr. M. Nasiruddin Munshi
Librarian (In-charge)
University of Dhaka


29.05.24