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Social Intelligence and Psychological Adjustment as Predictors of University Students' Intercultural Competence

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Abstract

The importance of intercultural competence has been steadily increasing. The need to develop intercultural capabilities in multicultural countries has become even more pressing than before. This study aimed to investigate the impact of social intelligence and psychological adjustment on the intercultural competence of university students. The study employed a correlational survey design. Data were collected from 476 (Male=244 and Female= 232) randomly selected Ambo University students. The data were analysed using regression and multivariate analysis of variance. The *regression result showed that class year (β=.809, p<.001), the number of language students experience (β=.801, p<.001), social intelligence (β=.553, p<.001), and psychological adjustment (β=.206, p<.001) all had a substantial contribution to intercultural competence. The finding indicated that 70.4% of the variance in intercultural competence was accounted for by the linear combination of student's class year, the number of languages, social intelligence and psychological adjustment. The result have also shown that students' class year accounted for the highest (68.7%) variation in intercultural competence followed by the number of languages spoken, social intelligence and psychological adjustment. Furthermore, significant differences in students' intercultural competence were observed due to sex and cultural experiences before joining the university. However, there was no significant mean difference in students' intercultural competence as a function of their family structure. Generally, based on the findings of the study, some practical implications, and future direction for further research are suggested.*

Keywords: *Intercultural competence, social intelligence, psychological adjustment, university students, Ethiopia*

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Introduction

Intercultural competencies have become crucial in today's globalized world as they are essential for various aspects of human lives such as learning, working, resolving conflicts, and effectively engaging with individuals from diverse eco-cultural backgrounds (Odağ et al., 2015). The 21st-century global situation is becoming increasingly multifaceted and interrelated. The steps and processes taken to address these challenges resonate worldwide. In the current era of virtual age and rapid globalization, university students have to cultivate intercultural competencies (Jones & de Wit, 2012). Moreover, the significance of intercultural competence is particularly pronounced during the university years as it is a crucial stage of personal growth where students shape their identities in relation to others and navigate diverse social dynamics before making long-term commitments to various aspects of life (Gurin, 1999; Gurinet al., 2002).

This makes universities an ideal context for enriching individuals and social competences and exploring their associated factors. According to Fantini (2005), intercultural competence refers to a set of skills and capabilities necessary for individuals to engage in effective and appropriate interactions with others who are linguistically and culturally different from themselves. Intercultural competence can be described as possessing the essential knowledge, awareness, attitude, and skills to understand and navigate one's own culture as well as other cultures, and to adapt one's behaviours accordingly (Bennett, 2011; Berardo, 2005; Deardorff, 2006; Fantini, 2009; Leunget al., 2014). The majority of past studies conducted in Western societies have primarily focused on the development of intercultural competence and related factors, specifically in the context of international or immigrant students studying at host

universities (Deardorff & Jones, 2012; Janelle et al., 2017; Yeke & Semerciöz, 2016). Hence, expanding the scope to domestic student populations could yield important new findings in this area. For instance, Bennett (2011) proposes a conceptualization of intercultural competence that encompasses three dimensions: affective, cognitive, and behavioural skills. On the other hand, Deardorff (2006) indicates that intercultural competence can be understood through five dimensions, namely requisite attitudes, knowledge and comprehension, awareness, desired external outcome, and internal outcome. Furthermore, Byram (2000) introduced another perspective on intercultural competence, which involves five dimensions: attitude, knowledge, interpreting and relating skills, exploring and interacting skills, and critical cultural awareness.

In this study, the researchers utilized Fantini's (2005) multidimensional intercultural competence (i.e., intercultural knowledge, intercultural attitude, intercultural awareness and intercultural skills) model, which is recognized as one of the most comprehensive and widely used frameworks in the field. Intercultural knowledge pertains to an individual's ability to acquire knowledge and relevant information about their own culture as well as the cultures with which they interact. Intercultural attitude refers to an individual's inclination to be open, respectful, interested, and curious about different cultures. Intercultural awareness can be defined as an individual's capability to perceive and understand the similarities and differences between their own culture and other cultures, while maintaining a critical perspective (Byram, 2000; Deardorff, 2011; Fantini, 2005). Intercultural skills encompass a range of abilities, including listening to people from other cultures, observing and understanding different cultural practices, interpreting and analysing cultural phenomena, evaluating cultural perspectives, and establishing connections and relationships across cultures (Fantini, 2005).

In the past, research on intercultural competence has centred around four key factors (i.e., individual, institutional, environmental and cultural variables). Individual factors encompass elements such as personality traits, language proficiency, and communication patterns (Deardorff, 2009). Institutional factors refer to aspects within educational institutions, such as curriculum design, pedagogical approaches, and even the layout of dormitories (Kudo et al., 2019). Environmental factors involve elements like physical proximity, opportunities for social exchange, and the presence of social networks (Odağ et al., 2015). Cultural factors refer to cultural identity, multicultural personality, and the ability to adapt to multicultural environments (Matveev, 2017). Moreover, a number of studies in communication, language, pedagogy, psychology, and social anthropology have made significant contributions to understanding intercultural competence and related factors (Anastasia, 2017; Anteneh, 2012; Fantini, 2005; Martin & Nakayama, 2008; Tong & Chen, 2008). However, most of these studies investigated intercultural competences in relation to immigrants' adjustment and adaptation in foreign countries, their adjustment to work diversity, job satisfaction, and academic performance, among other factors. As a result, elevating the scope to domestic university student of multicultural populations could yield important new findings in this area.

A substantial amount of previous research (e.g., Bosuwon, 2016; Donget al., 2008; Günçavd & Polat, 2016; Nikoopour & Esfandiari, 2017) offers empirical evidences that support the role of social intelligence, psychological adjustment, and certain demographic factors in promoting intercultural competences. As a result, the degree of intercultural competence among university students is associated with their level of social intelligence, psychological adaptation, and certain demographic factors (Guntersdorfer & Golubeva, 2018; Reid, 2013). Intercultural competence plays a vital

role in multiple dimensions of life, such as achieving academic success, navigating social interactions, promoting psychological well-being, and effectively addressing challenges encountered within a campus setting (Vegh & Luu, 2019; Wanget al., 2020). These challenges involve matters concerning adaptation, conflicts arising from cultural and ethnic disparities, and the facilitation of constructive dialogues and supportive relationships between students and universities.

Intercultural competence among university students has been linked to various outcomes, both at the intrapersonal and social levels. Research findings suggest that university students who possess high level of intercultural competence tend to experience various positive outcomes (Alabay & Polat, 2016). These include enhanced social intelligence and psychological adjustment, increased exposure to multiple languages and cultures, higher satisfaction with campus life, improved academic achievement, and a reduced likelihood of engaging in intercultural and interethnic conflicts (Bosuwon, 2016; Nikoopour & Esfandiari, 2017; Hiraiet al., 2015; Martinus, 2018; Tuncel & Arıcıoğlu, 2017). However, most of these studies were based on the experiences of international students who had been pursuing their studies in western countries. In the western society, the culture is individualistic, promoting autonomous individuation, whereas in Ethiopia, the culture is typically collectivist, fostering interdependence among individuals (Abebaw, 2014; Anteneh, 2012; Adamu & Zellelew, 2007). Therefore, due to the cultural distinctions between the two contexts, it would be unreasonable to anticipate identical outcomes in the Ethiopian setting as a whole, and specifically among university students.

The importance of understanding the intercultural competence of Ethiopian university students has increased due to the rapid changes in the multicultural makeup of Ethiopian higher education institutions. This has led to a greater focus on assessing

students' level of intercultural competence and the psychological factors related to it. University serves as a crucial environment for young adults to develop academically, socially, linguistically, psychologically, and personally (Abebaw & Tilahun, 2007; Chiu et al., 2013). University provides students with new opportunities to enhance their skills and prepares them for future social and personal responsibilities (Griffith et al., 2016; Janelle & Tenzin, 2017). Conversely, universities in Ethiopia are known as environments where ethnic tensions and intercultural conflicts manifest as significant battlegrounds for students (Ashebir & Belay 2020; Adamu, 2013; Tariku & Gara, 2016). Therefore, gaining a research-based understanding of intercultural competence and the related psychological factors could serve as a valuable tool for effectively addressing campus diversity and managing the challenges posed by ethnic and intercultural tensions. This implies that in Ethiopia, as far as the knowledge of the researchers is concerned, there was no adequate research evidence concerning the role of social intelligence, psychological adjustment and demographic variables on university students' intercultural competences. Thus, the contexts in which Ethiopian universities are actually functioning call for a study that examines university students' intercultural competence and associated factors.

Theoretical background of the study

Intercultural competence has been generally conceptualized as the skilful and effective navigation of interactions between individuals who possess diverse affective, cognitive, and behavioural perspectives towards the world (Spitzberg & Chagnon, 2009). In the context of multicultural university students, IC is commonly defined as students capacity to manage their cultural transition, capacity to change one's life course and effective interaction with people from different cultural backgrounds

(Deardorff 2006; Elosúa 2015; Kudo, Volet, & Whitsed 2019). Consequently, the leading intercultural competence research framework was adapted to comprehend important personal, social, psychological and ecological factors in the conceptualization of university students' intercultural competences.

According to Deardorff's (2009) multilevel causal path model, human attributes, ecological/system-level factors, and change processing factors can influence an individual's intercultural competence. There are four underlying principles that can be inferred from Deardorff's (2009) multilevel causal path model. The initial assumption posits that an individual's intrapersonal factors, such as cultural knowledge, motivations, and personality, significantly influence the individual's intercultural competences. The second concept is that interpersonal factors, such as social responsibility, social intelligence, and locus of control, have an impact on individuals' intercultural competence. The third assumption pertains to how change processing factors, such as psychological adjustment, coping with cultural shock, and managing identity change, influence an individual's level of intercultural competence. The fourth assumption emphasizes the influence of ecological and demographic factors in shaping an individual's intercultural competence (Deardorff, 2009; 2011).

Deardorff (2009) proposed a reciprocal relationship between the individual and the intrapersonal, interpersonal, change process, and environmental factors, wherein a university student's intercultural competences are influenced by these factors, and in turn, they also influence these factors. Deardorff's multilevel causal path model focused on how psychological and interpersonal factors, along with environmental variables, contribute to either enhancing or diminishing student's behaviours.

In multi-ethnic, multilingual, and multicultural societies, higher education institutions can indeed play a crucial role in enhancing democratic values, nonviolent

coexistence, and intercultural understanding among students (Abebaw, 2014). Despite the fact that numerous studies have investigated the issue of diversity climate among university students in Ethiopia, none of them have examined the level of intercultural competence and associated psychological factors (Abebaw, 2014; Adamu, 2013; Adamu & Zellelew, 2007; Tariku & Gara, 2016). Evidence also appears that intercultural competence and associated factors among university students in Ethiopia have not been properly addressed (Anteneh, 2012; Mekonnen, 2013). This may be one of the reasons for the existence of several inter-ethnic conflicts among university students in Ethiopia that interrupt the teaching-learning process and healthy functioning of the universities.

Therefore, to narrow the research gaps shown above particularly in the Ethiopian context, the researchers felt that it is worthwhile to investigate the role of social intelligence, psychological adjustment and some selected demographic variables on university students' intercultural competence. This study adopted the multilevel causal path model to gain a deeper understanding of the relationships between these variables. To this end, the following basic research questions are put forward;

- What is the level of students' intercultural competence, social intelligence, and psychological adjustment?
- Are there statistically significant relationships among intercultural competence, social intelligence, and psychological adjustment?
- To what extent is intercultural competence influenced by students' social intelligence psychological adjustment and some selected demographic variables?
- Is there statistically significant mean difference among dimensions of intercultural competence as a function of participants' sex, family structure and type of culture the students lived in before joining university?

Operational Definition of key Terms

Intercultural competence: is defined as university student's knowledge and ability to successfully deal with intercultural encounters as measured by Fantini's (2005) intercultural competence measuring scale.

Social intelligence: Defined as young adult's ability to understand others; one's own social interactions and apply this knowledge in leading and influencing others for their mutual satisfaction as measured by Silveraet al. (2001) Social Intelligence scale.

Psychological adjustment: is defined as the general feeling of welfare and contentment that one can experience because of lessening of stress in the new eco-culture contexts as measured by Othman et al., (2014) psychological adjustment measuring scale.

Methods

Study Design

The study employed a quantitative approach utilizing a correlational research design to explore the relationships between multiple variables. Specifically, the research aimed to examine the associations between students' class year or batch, intercultural competence, social intelligence, and psychological adjustment. According to Creswell (2012), correlational research design is a predictive approach that allows researchers to investigate the strength and direction of relationships between two or more variables. Identifying these associations, the study provides insights into how these variables interact and contribute to university students' intercultural competence.

Participants of the study

The study took place at Ambo University, Oromia, Ethiopia. According to the data gathered from Ambo University Registrar and Alumni Director's office, the study population consisted of 18,458 (M=10,182, F=8276) undergraduate students. The sample size determination was carried out using the approach proposed by Krejcie and Morgan (1970). Accordingly, a total of 476 (Male=244, Female=232, M_{age}= 22.35 years, SD=2.989) participants were chosen from the overall population utilizing a stratified random sampling technique. The sample was taken from five different colleges, with the following proportions: 156 (32.77%) from College of Medicine and Health Sciences, 119 (25%) from Institute of Technology, 114 (23.95%) from College of Business and Economics, 45 (9.45%) from Institute of Education and Behavioural Science, and 42 (8.82%) from College of Social Sciences and Humanities. The inclusion criteria consisted of regular undergraduate students who were in their 2nd year or higher and demonstrated a willingness to take part in the study.

Following scholars' suggestion (e.g., Byrne, 2016; Hair et al, 2014), the total sample (N = 476) of the study was divided into two equal smaller samples (i.e., n = 238 each). The first sample of 238 participants was then used for the purpose of Exploratory Factor Analysis (EFA) whereas the second sample of 238 participants was used for the purpose of Confirmatory Factor Analysis (CFA). The validation process yielded the final Amharic version scale with 30- items, after discarding several items (see Tessema & Seleshi, 2024).

In the present study, we used the large sample (N = 476) to answer research questions other than those that focused on the instrument validation. This practice is supported by several scholars. According to Worthington and Whittaker (2006) and Hinkin (1995), for example, after initial EFA and CFA, the full dataset can be used for

further validation and other research goals. Likewise, other scholars (e.g., Clark & Watson, 1995; Devellis, 2006) recommend the use of the full dataset after EFA and CFA for comprehensive validation and other research objectives. It is following these suggestions that we merged the two smaller samples used for EFA and CFA, exclude all items which were rejected in the validation process and used the full dataset to answer research questions other than those pertaining to the instrument validation.

Measures

In the present study, a questionnaire, comprising four sections, was employed to collect data. Whereas the first section contains items on demographic factors including (i.e., sex, ethnicity, class year/batch, perceived types of culture lived before joining university and linguistic proficiency). The remaining three were scales on intercultural competence, social intelligence and psychological adjustment.

Intercultural Competence; the intercultural competence scale (ICS; Fantitni, 2005) was adapted and utilized to measure university student's intercultural competence. Originally the scale has 50 items with four subscales (intercultural knowledge, attitude, awareness and skill) are presented as a six-point scale ranging from 0 to 5 (0=not at all to 5=very high). This scale was adapted for use in the Ethiopian context following all the scale adaptation procedures as suggested by several earlier scholars (e.g., Boatenget al., 2018; Lawshe, 1975; International Test Commission (ITC), 2010; Tanzer, 2005). As the norms of the scale, high score indicates higher level of intercultural competence and low score indicates low level of intercultural competence. The Exploratory Factor Analysis (EFA) we conducted produced a four-factor structure like the original version with 55.275% total explained variance (Tessema & Seleshi, 2024). The retained four-factor structure had a factor loading

ranging from 0.448 to 0.781. Similarly, the results of the confirmatory factor analysis (CFA) indicate that the data fit the hypothesized model with excellent convergent and discriminant validity, as well as acceptable goodness-of-fit indices. Further, the pilot study result confirmed that the reliability for each subscales were α=.81 for intercultural attitude, α=.88 for intercultural awareness, α=.84 intercultural knowledge and α=.82 for intercultural skills. This suggested that the adapted measure could be used to assess university students' intercultural competence in the Ethiopian context (Tessema & Seleshi, 2024).

Social Intelligence: in order to measure the social intelligence of the study participants, Silvera, Monica and Dahl's (2001) multidimensional social Intelligence (21-items) scale was translated, adapted and utilized in the Ethiopian context. Originally, the scale is a self-report instrument aimed to measure university students' social information processing, social skills and social awareness with very good psychometric properties. To make the scale valid and reliable for use in the Ethiopian context, both exploratory and confirmatory factor analysis were done based on recommended instrument validation procedures (e.g., Lawshe, 1975; ITC, 2010; Tanzer, 2005). Responses were rated from 1=strongly disagree to 5 =strongly agree. The result of EFA showed three interpretable factors similar to the original version with factor loadings ranging from 0.61 to 0.968. All factors were loaded to the identified factor structure with 74.32% total variance explained. Furthermore, CFA indicates that the data fit the hypothesized model since the analysis confirmed that the model of this study has good construct validity (convergent and discriminant validity) as well as acceptable goodness of fit indices. Moreover, the internal consistency of the factors were found to be good (α=0.828 for social awareness, α=0.845 for social skills and

α=0.935 for social information processing) with significant inter-correlation between the subscales (See Appendix).

Psychological adjustment: Psychological adjustment scale with three dimensions developed by Othman et al. (2014) was validated and utilized in this study to measure the psychological adjustment of university students. The measure comprised of 12 items rated on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Originally, Othman et al's psychological adjustment scale has three dimensions with acceptable internal consistency (Cognitive adjustment, α =0.81, Affective adjustment, α =0.79 and Attitudinal/behavioural adjustment, α =0.80). High score on each subscale represents high approval of adjustment in each dimension (cognitive, affective and attitudinal). To make the scale valid and reliable in the Ethiopia context, both exploratory and Confirmatory factor analyses were done. The EFA resulted in three interpretable factors like the original version. As a result, items measuring cognitive adjustment had factor loadings ranging from 0.60 to 0.89. Similarly, items measuring students' affective adjustment had factor loadings ranging from 0.53 to 0.85 and items measuring participants' affective adjustment had factor loadings ranging from 0.70 to 0.79. The three replicated factors accounted for 63.69% of the total variance. The results further showed that this scale had satisfactory convergent and discriminant validity with acceptable internal consistency ranging from 0.784 to 0.839, suggesting that the measures could be used to assess psychological adjustment of university students in the Ethiopian eco-cultural context (See Appendix).

Validation of the Instrument

The researchers followed appropriate procedures for instrument translation and data collection. First, they assessed the content validity of the original English version

of the scale with a group of eight experts, following the suggestions of Lawshe (1975). The content validity assessment results indicated that all items of the scales had a content validity ratio (CVR, > 0.75) and content validity index (CVI, >0.90) score exceeding the acceptable thresholds. Secondly, based on the comments and suggestions forwarded by the group of experts essential modifications were made and all scale were retained and translated into Amharic language. Thirdly, translation of the scale from source language into Amharic version was executed through the forward and backward translation protocol recommended by various scholars (e.g., ITC, 2010). Lastly, both exploratory (EFA) and confirmatory factor analysis (CFA) were conducted, and the final, refined instruments have been retained.

Therefore, from an initial set of 50 items measuring intercultural competence, 30 items were retained in the Amharic version of the intercultural competence (ICC) scale. This 30-item ICC scale demonstrated excellent psychometric properties (Tessema & Seleshi, 2024). From an original set of 21 items measuring social intelligence, 17 items were retained in the Amharic version of the social intelligence scale. This 17-item scale depicted excellent factor structure and psychometric properties, as detailed in Appendix. Furthermore, from an original set of 12 items measuring psychological adjustment, all 12 items were retained in the Amharic version with excellent factor loading and psychometric properties (See Appendix).

Procedures

Initially, a support letter was secured from the School of Psychology, Addis Ababa University and given to Ambo University. Before commencing the study, the research project obtained approval and ethical clearance from the Research Ethics Committee of the Department of Psychology, College of Education and Behavioural

Science, Ambo University. The reference number for the ethical clearance is Ref: AU/Psy/Eth Co/011/2022. We obtained permission from the relevant departments, identified the target participants, provided an orientation about the study's purpose, and obtained verbal consent. After obtaining informed verbal consent, the participants received instructions on how to complete the form. They were then provided with a cover letter and the final version of the questionnaire, which explained the research purpose and guaranteed respondent anonymity. Administration of the questionnaires took place during regular class time with close supervisions of the enumerators and researchers. Once the study participants finished completing the self-administered questionnaires within the designated timeframe, the collected questionnaires were examined to ensure they were correctly filled out and prepared for subsequent coding and data analysis.

Table 1

Demographic Characteristics of Study Sample (N=476)

S.N	Demographic variables	Category	Frequency	Percent %)
1	Sex	Male	244	51.3
		Female	232	48.7
2	Ethnicity	Oromo	189	39.7
		Amhara	157	33.0
		Tigre	23	4.8
		Others	107	22.5
3	Class year (batch)	2nd year	83	17.4
		3rd year	224	47.1
		4th year	117	24.6
		5th year	52	10.9
4	Perceived Linguistic proficiency	Monolingual	94	19.7
		Bilingual	235	49.4
		Multilingual	147	30.9
5	Perceived lived culture before joining university	Monoculture	160	33.6
		Bicultural	147	30.9
		Multicultural	169	35.5
6	Family structure	Intact	378	79.4
		Non-intact	98	20.6

As shown in Table 1, the sample comprised nearly equal male (51.3%) and female (48.7%) students. On the other hand, the majority of the participants came from intact families (79.4%), were bilingual (49.4%) and third year (47.1%) students.

Techniques of data analysis

The data analysis was conducted using IBM SPSS version 26.0. Prior to conducting the data analysis, the accuracy of the data entry was assessed by randomly selecting 20% of the total copies of the questionnaire and crosschecking them with the entered data. This assessment showed that the data were accurately entered into the software. In an effort to examine the distribution of the sample and assess the level of intercultural competence, measures such as the mean, standard deviation, frequency, and percentage were utilized. To explore the relationship, contribution, and mean differences among the variables in the study inferential statistical techniques including correlation, multiple and hierarchical regression and MANOVA) were employed. Finally, prior to conducting statistical tests, assumptions of the tests (normality, linearity, homoscedasticity, and multicollinearity) were checked. The results have indicated that the assumptions were tenable.

Results

Level of intercultural competence, Social intelligence and Psychological adjustment

Table 2 presents the average scores of the participants, indicating their levels of intercultural competence, social intelligence, and psychological adjustment. The research results indicate that out of the 476 participants, 47% (n=224) who achieved scores higher than the mean value of 3.40 exhibited a high level of intercultural competence. Conversely, a larger proportion of participants (53%, n=252), scored below the mean (<3.4 mean values), indicating a low level of intercultural

competence as suggested by (Fantini, 2009; Gizem & Soner, 2016). When examining each factor of ICC individually, it was observed that the larger proportion of participants, specifically 58.4% (n=278), demonstrated a low level of intercultural skills in comparison to the other factors. Regarding social intelligence, it was found that 44.54% (n=212) of the respondents displayed a high level of social intelligence whereas 55.46% (n=264) scored below the average, showing a lower level of social intelligence.

When examining each factor of social intelligence, the highest proportion of study participants (56.72%, n=270) demonstrated a low level of social information processing. However, their performance in the other dimensions of social intelligence was relatively close to average or varied. Regarding psychological adjustment, of the 476 respondents, 44.26% (n=211) exhibited a high level of psychological adjustment. In contrast, a larger proportion (55.67%, n=265) of the study participants displayed a lower level of psychological adjustment. In terms of each psychological adjustment dimension, proportionally highest number of low scores was observed on the cognitive adjustment, followed by the behavioural adjustment subscale (see Table2).

Table 2

Level of Intercultural Competence, Social Intelligence and Psychological Adjustment (n=476)

Note: *ICC-intercultural competence, SQ-social intelligence, PsyA- psychological adjustment, SD-standard deviation, Min-minimum, Max-maximum*

Variables	No of items	Freq.	Min	Max	Mean	SD	Percent
ICC-attitude	10	227	12	49	34.5	6.77	47.69
ICC-awareness	7	242	7	35	25.76	6.04	50.84
ICC-knowledge	8	229	6	40	28.32	6.84	48.12
ICC-skills	5	198	6	25	17.97	3.71	41.66
Overall ICC	30	224	45	145	106.16	18.95	47.06
Social awareness	5	219	10	30	21.82	3.67	46.01
Social skill	6	210	7	30	21.85	3.67	44.12
Social information processing	6	206	7	39	24.67	4.04	43.28
Overall SQ	17	212	37	86	68.34	8.26	44.54
Cognitive adjustment	4	201	15	20	18.22	1.31	42.23
Affective adjustment	4	222	10	29	18.26	1.58	46.64
Behavioural adjustment	4	209	13	20	18.72	1.22	43.91
Overall PsyA	12	211	43	66	55.24	2.89	44.26

The interrelationship between the main variables of the study

Table 3 presents the correlations between predictors and outcome variables of the study. The findings indicate that there is a significant positive relationship between intercultural attitude, intercultural awareness, intercultural knowledge, intercultural skill, and overall intercultural competence (ranging from $r = .72$ to $r = .82$, all with $p < .01$). The findings have also revealed that social intelligence has a statistically

significant positive correlation with intercultural attitude ($r = .59$, $p < .01$), intercultural awareness ($r = .40$, $p < .01$), intercultural knowledge ($r = .34$, $p < .01$), and intercultural skill ($r = .30$, $p < .01$). Similarly, psychological adjustment exhibited a significant and positive correlation with intercultural attitude ($r = .25$, $p < .01$), intercultural awareness ($r = .14$, $p < .01$), intercultural knowledge ($r = .16$, $p < .01$), and intercultural skill ($r = .14$, $p < .01$).

After applying dummy coding to students' class year or batch, the results indicate a statistically significant positive correlation with intercultural competence ($r = .81$, $p < .01$), social intelligence ($r = .48$, $p < .01$), and psychological adjustment ($r = .22$, $p < .01$). When investigating the relationship between the various dimensions of the scale, the study found statistically significant positive correlations between the factors of the predictor and outcome variables (ranging from $r = .10$, $p < .05$ to $r = .90$, $p < .01$). These results suggest that university students who possess higher levels of social intelligence and psychological adjustment are more likely to exhibit enhanced intercultural competence and vice versa.

Table 3

Correlation between Predictors and outcome variables of the study (N=476)

Variables	Age	NoL	C/Year	ICCA	ICCAW	ICCK	ICCS	SA	SS	SIP	CA	AA	BA	ICCT	SQT	PsyAT
Age	-															
NoL	.059	-														
C/Year	.082	.893**	-													
ICCA	.092	.705**	.712**	-												
ICCAW	.062	.722**	.725**	.518**	-											
ICCK	.082	.753**	.757**	.459**	.546**	-										
ICCS	.006	.659**	.654**	.415**	.453**	.523**	-									
SA	.072	.488**	.488**	.584**	.349**	.328**	.322**	-								
SS	.028	.216**	.325**	.233**	.334**	.224**	.204**	.316**	-							
SIP	-.32	.358**	.327**	.489**	.289**	.283**	.203**	.491**	.375**	-						
CA	.083	.157**	.160**	.124**	.177**	.180**	.172**	.205**	.120**	.185**	-					
AA	.086	.133**	.133**	.135**	.193**	.193**	.190**	.256**	.185**	.198**	.647**	-				
BA	.048	.212**	.212**	.263**	.152**	.265**	.226**	.240**	.189**	.247**	.756**	.651**	-			
ICCT	.072	.899**	.809**	.770**	.798**	.817**	.717**	.512**	.365**	.423**	.129**	.135**	232**	-		
SQT	.022	.484**	.484**	.585**	.399**	.343**	.300**	.816**	.788**	.809**	139**	.147**	167**	.530**	-	
PsyAT	.091	.223**	.223**	.227**	.160**	.160**	.141**	.312**	.173**	.130**	.733**	.797**	.704**	.217**	.201**	-

**p<.01 (2-tailed). *p<.05 (2-tailed).

Notes: NoL, the number of languages, C/Year: class year, *ICCA-intercultural attitude, ICCAW-intercultural awareness, ICCK-intercultural knowledge, ICCS-intercultural skills, SA-social awareness, SS-social skill, SIP-social information processing, CA-cognitive adjustment, AA-affective adjustment, BA-behavioural adjustment, ICCT-intercultural competence total, SQT-social intelligence total and PsychAT-psychological adjustment total.*

Results of regression analysis demonstrating the role of independent variables in predicting university students' intercultural competences

As shown in Table 4, students' class year (after dummy coding) significantly and positively predicted intercultural attitude (β=.712, P<.001), intercultural awareness (β=.725, P<.001), intercultural knowledge (β=.757, P<.001) and intercultural skills (β=.654, P<.001).

Table 4

The results of multiple regression Analysis predicting intercultural competence from students class year, the number of languages, social intelligence and psychological adjustment (N=476)

Predictor variables	Dependent variable (ICC and its subscale)	B	R^2	t	F
Class year/batch	Intercultural attitude	.712	.507	22.086***	487.78
	Intercultural awareness	.725	.525	22.913***	525.01
	Intercultural knowledge	.757	.572	25.22***	636.32
	Intercultural skill	.654	.428	18.823***	354.31
	Overall ICC	***.809***	***.654***	***47.516******	***2257.81***
The number of languages spoken	IC attitude	.705	.497	21.621***	467.458
	IC awareness	.722	.521	22.698***	515.131
	IC knowledge	.753	.568	24.951***	622.566
	IC Skill	.659	.434	19.057***	363.165
	Over all ICC	***.801***	***.642***	***46.761******	***2186.61***
Social intelligence	Intercultural attitude	.585	.342	15.703***	246.59
	Intercultural awareness	.399	.159	9.482***	89.911
	Intercultural knowledge	.343	.117	7.942***	63.074
	Intercultural skill	.300	.090	6.836***	46.734
	Over all ICC	***.533***	**.284**	***13.712******	***188.011***
Psychological adjustment	Intercultural attitude	.227	.051	5.066***	25.668
	Intercultural awareness	.141	.020	3.096**	9.587
	Intercultural knowledge	.160	.026	3.537**	12.511
	Intercultural skill	.147	.029	3.102**	9.622
	Over all ICC	**.206**	**.042**	**4.577*****	**20.947**

Note: ICC- intercultural competence, ***p<.001, **p<.01

Likewise, the number of language spoken by the students positively and significantly predicted intercultural attitude (β =.705, P<.001), intercultural awareness (β =.722, P<.001), intercultural knowledge (β =.753, P<.001) and intercultural skill (β =.659, P<.001). Further, the magnitudes of the beta coefficients indicated that social intelligence predicted positively and significantly intercultural attitude (β=.585, P<.001), intercultural awareness (β=.399, P<.001), intercultural knowledge (β=.343, P<.001) and intercultural skills (β=.300, P<.001) of university students. Moreover, there was an independent significant contribution of psychological adjustment in predicting intercultural attitude (β=.227, P<.001), intercultural awareness (β=.141, P<.01), intercultural knowledge (β=.160, P<.001) and intercultural skills (β=.147, P<.001).

Table 5

*The Results of Hierarchical Regression Analysis Predicting intercultural competence from students' class year, number of language spoken, social intelligence and psychological adjustm*ent (N=476)

Variables entered and interaction	Overall intercultural competence scale					
	R	R^2	R^2 adjusted	$R^2\Delta$	F	F-change
Class year	.829	.687	.687	-	2257.958***	-
Class year, the number of languages	.857	.735	.693	.066	1594.317***	162.333***
Class year, the number of languages, social intelligence	.838	.702	.701	.008	1142.761***	31.828***
Class year, the number of languages, social intelligence, Psychological adjustment	.839	.704	.770	.003	855.317***	1.030*

**p < .01, ***p <.001

The data in Table 5 show that 70.4% of the variance in intercultural competence was accounted for by the linear combination of students' class year, the number of languages they speak, social intelligence, and psychological adjustment. When all the predictor variables were entered into the regression equation sequentially based on their beta weights, students' class year accounted for the highest variation in intercultural competence explaining 68.7% of the total variance [F [1, 474]) = 2257.95, p<.001]. The number of languages they speak was the next significant predictor [(F [1,473]) =162.33, p<.001] of intercultural competence followed by social intelligence [(F [1, 472]) = 31.828, P<.001] and psychological adjustment (F [1, 471]) = 855.317, p<, 01).

Differences in students' Intercultural competence due to their Sex, Family Structure and types of culture they lived in before joining university

In this study, MANOVA was employed to assess whether gender, family structure, and type of culture the students experienced before joining university had any combined effects on overall intercultural competence (combining all four dimensions). Prior to conducting the MANOVA analysis, the statistical assumptions were evaluated, including normality, linearity, multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity. The results have indicated that these assumptions were met and there were no violations detected. The MANOVA results are presented in Table 6 below.

Table 6

The Summary of MANOVA Results for the Main Effects of Sex, Family Structure, and types of culture on students' intercultural competence (N=476)

Effect		Values	F	Hypothesis df	Error df	Sig	Partial Eta. square
	Pillai's Tarce	.169	19.129[b]	5.000	470.000	.000	.169
Sex	Wilks' Lambda	.831	19.129[b]	5.000	470.000	.000	.169
	Hotelling's Tarce	.204	19.129[b]	5.000	470.000	.000	.169
	Roy's Largest Root	.204	19.129[b]	5.000	470.000	.000	.169
	Pillai's Tarce	.006	.540[b]	5.000	470.000	.746	.006
FS	Wilks' Lambda	.994	.540[b]	5.000	470.000	.746	.006
	Hotelling's Tarce	.006	.540[b]	5.000	470.000	.746	.006
	Roy's Largest Root	.006	.540[b]	5.000	470.000	.746	.006
LTC	Pillai's Tarce	.480	29.704	10.000	469.000	.000	.240
	Wilks' Lambda	.530	35.093[b]	10.000	469.000	.000	.272
	Hotelling's Tarce	.870	40.699	10.000	469.000	.000	.303
	Roy's Largest Root	.848	79.686	5.000	469.000	.000	.459
Sex*FS*L	Pillai's Tarce	.014	.795	8.000	924.000	.607	.007
TC	Wilks' Lambda	.986	.795[b]	8.000	922.000	.607	.007
	Hotelling's Tarce	.014	.795	8.000	920.000	.607	.007
	Roy's Largest Root	.013	1.448[c]	4.000	492.000	.217	.012

Note: *FS-family structure, LTC-Lived type of culture before joining university*

The MANOVA results in Table 6 showed that there was statistically significant difference between males and females (Wilks' Lambda=.831, F [5, 470] =19.129, p<.001, partial eta square=. 169) on the overall intercultural competence scale. Likewise, the main effect of the type of culture the students lived in before joining university (Wilks' Lambda=.530, F [10, 469] =35.093, p<.001, partial eta square=. 272) was statistically significant. Focusing only on those statistically significant predictor variables, a follow-up test of between subject effects was conducted in relation to each dimension or subscale of the dependent variable. The results are presented in Table 7 below.

Table 7

Summary table for Test of between subject effects of sex and type of culture the participants lived in before joining university on intercultural competence-subscales (N=476)

Source	Dependent variable	Type III Sum of Squares	DF	Mean square	F	Sig.	Partial Eta. Square
Sex	ICCA	563.905	1	563.905	17.724	.000	.037
	ICCAw	110.524	1	110.524	4.647	.032	.010
	ICCK	291.561	1	291.561	9.331	.002	.020
	ICCS	161.510	1	161.510	11.007	.001	.023
TC	ICCA	2886.921	2	1443.461	45.370	.000	.164
	ICCAw	3229.364	2	1614.684	67.891	.000	.226
	ICCK	3111.694	2	1555.847	49.791	.000	.177
	ICCS	841.460	2	420.730	28.674	.000	.110

***Note**: TC-=types of culture lived before joining university, ICCA= intercultural attitude, ICCAw= intercultural awareness, ICC= intercultural knowledge, ICCS = intercultural skill*

The results in Table 7 indicated that there was statistically significant mean difference in students intercultural attitude (F (1, 464) = 17.724, p < .001, η^2 = .037), intercultural awareness, (F (1, 464) = 4.647, p < .05, η2 = .010) intercultural knowledge (F (1, 464) = 9.331, p < .05, η^2 = .020) and intercultural skill (F (1, 464) = 11.007, p <

.05, η^2 = .023) as a function of their sex. This implies that 3.7% of the students' intercultural attitude was predicted by their sex followed by 2.3% of intercultural knowledge, 2% of intercultural skill and 1% of intercultural awareness. Tukey's post hoc multiple comparison analysis revealed that the mean scores of intercultural competence subscales for female participants are significantly higher than those of male respondents. Similarly, there was a statistically significant mean difference in intercultural attitude, awareness, knowledge and skill between respondent's types of cultural experiences (i.e., mono culture, bicultural and multicultural). As seen in Table7, the step-down analysis showed that the highest significant differences were in intercultural awareness (F [2, 464] = 67.891, p < .001, η^2 = .226), followed by intercultural knowledge, (F [2, 464] = 49.791, p < .001, η^2 = .177), intercultural attitude (F [1, 464] = 45.370, p < .001, η^2 = .164), and intercultural skill (F [1, 464] = 28.674, p < .001, η^2 = .110). The mean scores on intercultural competence dimensions of the respondents who reported to have been in a multicultural context were significantly greater than the mean scores of those who grew up in bicultural or mono cultural contexts before joining university.

Discussion

The aim of the present study was to investigate the extent to which social intelligence, psychological adjustment, and selected demographic variables predict the intercultural competence of university students. When the number of cases who scored above the mean values is considered, a larger proportion (53%) of the respondents demonstrated a relatively low level of intercultural competence whereas slightly below one-half (47%) of the participants had a high level of intercultural competence. Looking at each factor of ICC, the largest proportion of participants (58.4%) reported low level

of intercultural skill. This implies that although the students reported to have better intercultural awareness and knowledge, the majority of university students in Ethiopia do not have the skill to engage with students out of their cultural backgrounds (out-group). This result is consistent with qualitative studies done by Anteneh (2012) and Mekonnen (2013), which found poor intercultural communication competence among university students in Ethiopia. This phenomenon can be explained by ethnocentrism, a dearth of intercultural exchanges, and the apprehension of facing discrimination within their own ethnic communities. However, some studies conducted elsewhere on international university students have revealed high level of intercultural competence (Alabay & Polat, 2016; Bosuwon, 2017; Deardorff, 2011). This contradictory result may be due to the nature of respondents and cultural or national origin. That is, whereas the participants of the present study were domestic university students, the other studies investigated the issue with international students who have high international exposure. Supporting this argument, some past studies have documented that international students have significantly higher level of intercultural competence than domestic students (McMurray, 2007; Lyttle et al., 2011; Chocce et al., 2015).

Regarding social intelligence, 55.46% of the participants were found to have low level of social intelligence (considering the mean score as a cut-off score that separates high and low levels of social intelligence). The finding is consistent with the study conducted by Raziq and Shukla in (2023) on university students, indicating that larger number of participants was found to have either a medium or low level of social intelligence. Furthermore, the findings from the studies by Chettri (2016) and Malik et al. (2018) also indicate that the majority of college students possess a moderate to low level of social intelligence.

Concerning psychological adjustment, the study's results indicated that 55.67% of the participants have low level of psychological adjustment. Yuko et al. (2021) and Wang and Zhangm (2015) also reported similar results, suggesting that college students face an elevated vulnerability to psychological distress, which indicates a lower level of psychological adjustment. In summary, the study clearly showed that most of the students possess lower levels of intercultural competence, social intelligence, and psychological adjustment. The results point to the need for the universities to work on enhancing students' adjustment skills by organizing intercultural dialogues and providing training on social skills adjustment.

The correlation coefficients for the study variables showed that there is moderate to high linear relationships between intercultural competence and the number of languages, students' class year, social intelligence and psychological adjustment. According to the results, respondents with a high level of intercultural competence tend to have multi-lingual experience, relatively longer years of education at the university, a high level of social intelligence, and strong psychological adjustment. The findings of the present study assert that students' class year is associated with their level of intercultural competence, implying that as students stayed longer in the university, their level of intercultural competence increases. This finding is in line with previous studies (e.g., Anteneh, 2012; Dinges, 1983; Ganesan & Morales, 2022; Seregina et al. 2019), which demonstrate thatthe more diverse language experiences people have, the higher their level of intercultural competence tends to be. This means that as the students become more proficient in multilingual experience, the higher their level of intercultural competence and integration with people from different eco-cultural contexts. On the other hand, the result of the study indicated that the higher the level of

students' social intelligence and psychological adjustment, the higher their level of intercultural competence.

The results of the present study indicated that a significant proportion of the variance in intercultural competence among university students is explained by their class year (β=.809, P<.001). This clearly shows a strong and statistically significant relationship between students' class year and their level of intercultural competence. The current findings align with previous research findings that highlighted the impact of students' longer experience as university students on their intercultural competence levels (Sandell & Tupy, 2015; Tuncel & Arıcıoğlu, 2017). This consistency across multiple studies suggests a recurring pattern indicating that students' experience as university students can play a significant role in shaping their intercultural competence. Past research (e.g., Okken et al., 2022; Deardorff, 2011) has documented that year level (or the number of years students stay in the university) is significantly important in terms of explaining the variance in intercultural competence. Thus, as students' progress through their senior years, their intercultural competence tends to undergo significant improvement because of the intercultural relations with peers from diverse eco-cultural backgrounds.

The findings of this study also indicated that a significant portion of the variation in students' intercultural competence could be attributed to the number of languages they speak. Approximately 80.1% of the variability in students' intercultural competence could be accounted for by proficiency in speaking multiple languages. Consistent with the findings of this study, Abduh and Rosmaladewi (2018) and Upton (2022) reported that as students' ability to speak another language increases, their level of intercultural competence increases. Further, this finding is similar to the findings

reported by Chen and Hu (2023) and Tiurikova and Haukås (2022), according to whom being proficient in multilingual skills is positively associated with students' intercultural ability. The ability to speak multiple languages, in addition to one's native language, can enhance an individual's respect and tolerance for diversity (Berry et al., 2002; Chao et al., 2011; Ruben, 1989). This, in turn, can lead to improved intercultural competence. Promoting students' multilingual skills can be facilitated through the implementation of educational policies and political structures that prioritize the use of multiple languages to cultivate intercultural competence among students.

Regarding the effect of sex, the result of this study revealed that sex of participants had significant effect on their intercultural competence. More specifically, female students' intercultural competence score was higher than that of male students. This finding is consistent with that of previous studies (Amanda et al., 2017; Chen & Hu, 2023; Gonzales, 2017; Trond & Niels 2019). This means that female students might possess greater motivation to comprehend, value, and embrace cultural differences. In relation to types of culture the students experienced before joining university, the result showed that students from multicultural experience had a significantly better intercultural competence. This implies that the mean score of students' intercultural competence was higher for students who lived in a multicultural context than those students from bicultural or mono-cultural settings. This finding is in agreement with previous studies (e.g., Deardorff 2011; Gonzales, 2017; Schwarzenthalet al. 2020) which showed that students who have multicultural experience tend to have higher level of intercultural competence.

Limitations

The study has a couple of limitations that readers should note. Readers should be cautious when generalizing the results to the entire population of Ethiopian university students. This is because the participants of this study came from only one university, namely Ambo University. Therefore, additional research involving students from diverse universities with different eco-cultural contexts is needed. Furthermore, whereas this study employed quantitative approach, qualitative research or mixed research could also yield results that contribute to a better understanding of students' intercultural competence and its contributing factors. Thus, studying university students' intercultural competence in the country's different regions with the use of mixed research or qualitative research is warranted.

Conclusions and Recommendations

The study findings showed that a relatively larger number of participants reported lower level of intercultural competence, social intelligence, and psychological adjustment. Consequently, universities should encourage organizational transformation that fosters teaching practices embracing cultural inclusivity. They should also facilitate intercultural dialogues, adaptation, and interaction among students from diverse eco-cultural backgrounds. The results of this study demonstrated a range of interrelationships among the major variables, varying from strong to weak. In addition, the hierarchical regression analysis indicated that the factor contributing the most to the differences in intercultural competence among students was their class year (that is, the number of years they stayed in the university). This was followed by the number of languages they speak, their level of social intelligence, and their psychological

adjustment. Thus, being a senior student, having multilingual experience, being socially intelligent, and being psychologically well-adjusted during university life significantly contribute to intercultural effectiveness. The significance of intercultural competence in conflict resolution cannot be overstated as it plays a vital role in enhancing intercultural communication and fostering tolerance towards diversity. As a result, it is imperative for universities to establish approaches that aim at enhancing students' intercultural competence and facilitating their adaptation to multicultural environments.

Authors Contribution: TA: Conceptualization, preparing a draft of the written content, designing the study, collecting data, creating visualizations, develops the methodology, translating instruments, validating the data, and conducting statistical analysis. SZ: conceptualizing, developing methodologies, coordinating, supervising, validating, reviewing, editing, and approving both linguistic and technical aspects. Typically, both authors participate in the review process and provide their approval for the final submission of the manuscript to the Journal of EJoBS.

Ethical Consideration

The present study has had ethical approval from the Ethics Committee of Ambo University, Institute of Education and Behavioural Study and the Department of Psychology (Ref.no. AU/Psy/Eth Co/011/2022). All individuals who took part in the study did so of their own free will and gave their consent verbally after receiving information about the study.

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Conflict of interest

The authors declared no conflicts of interest associated with this study.

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Data Availability

The datasets produced and analysed during the course of this study can be obtained from the corresponding author upon reasonable request.

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Appendixes A

Figure1. Model fit indices for the Amharic version Social Intelligence Scale

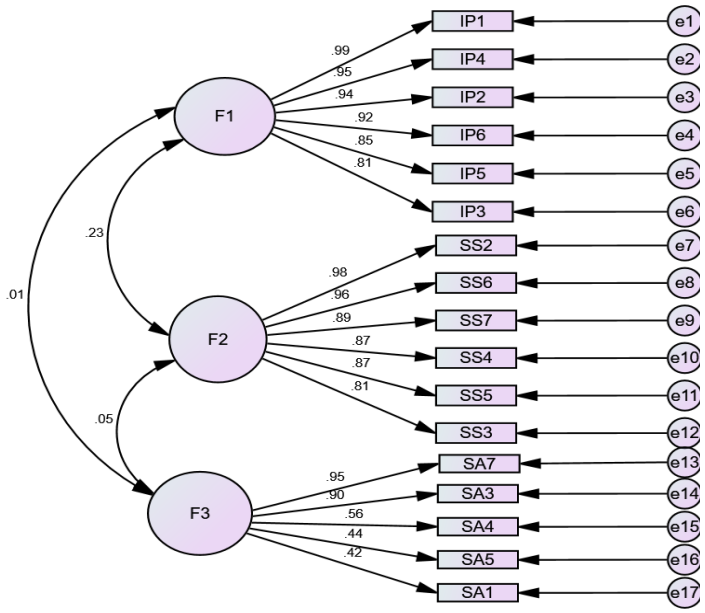
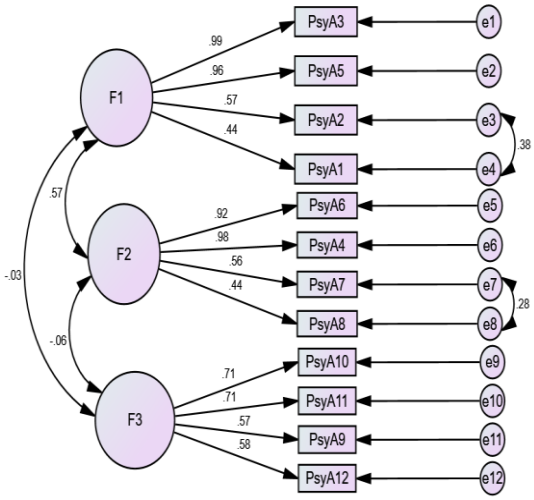


Figure 2. Model fit indices for the Amharic version Psychological adjustment Scale



Appendix B

Summary of the Convergent and Discriminant validity of the three social intelligence subscales- Amharic version (n=238)

SI subscales	CR	AVE	MSV	ASV	SIP	SS	SA
Social information Processing (SIP)	.84	.83	.12	.09	**.91**		
Social skill (SS)	.89	.81	.21	.16	.34**	**.90**	
Social awareness (SA)	.73	.58	.21	.14	.27**	.46**	**.761**

Note. *CR = composite reliability; AVE = average variance extracted; MSV = maximum shared squared variance; ASV = average shared square variance*

Summary of the Convergent and Discriminant validity of the three psychological adjustment subscales- Amharic version (n=238)

S.N	Variables	Subscale	Before running EFA & CFA		After EFA& CFA (Final version)	
			Cronbach alpha	No of items	Cronbach alpha	No of items
		Information Processing	.788	7	.935	6
	Social	Social Skill	.810	7	.845	6
2	Intelligence	Social awareness	.833	7	.858	5
		Overall Reliability	**.865**	**21**	**.897**	**17**
		Cognitive adjustment	.821	4	.839	4
	Psychological	Affective Adjustment	.777	4	.784	4
3	adjustment	Behavioural adjustment	.768	4	.824	4
		Overall Reliability	**.879**	**12**	**.924**	**12**

SI subscales	CR	AVE	MSV	ASV	CA	AA	BA
Cognitive Adjustment (CA)	.78	.68	.15	.10	**.82**		
Affective Adjustment (AA)	.74	.58	.14	.11	.24**	**.76**	
Behavioural Adjustment (BA)	.76	.56	.08	.06	.38**	.29**	**.75**

Note. CR = composite reliability; AVE = average variance extracted; MSV = maximum shared squared variance; ASV = average shared square variance

Appendix c

Reliability Coefficients of the Scales before and after EFA and CFA

S.N	Variables		Before running EFA & CFA		After EFA& CFA (Final version)	
		Subscale	Cronbach alpha	No of items	Cronbach alpha	No of items
2	Social Intelligence	Information Processing	.788	7	.935	6
		Social Skill	.810	7	.845	6
		Social awareness	.833	7	.858	5
		Overall Reliability	**.865**	**21**	**.897**	**17**
3	Psychological adjustment	Cognitive adjustment	.821	4	.839	4
		Affective Adjustment	.777	4	.784	4
		Behavioural adjustment	.768	4	.824	4
		Overall Reliability	**.879**	**12**	**.924**	**12**