

Continental Differences in International Students' Acculturative Stress: Sources, Social Support, Assertiveness, and Self-Efficacy

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The Ghanaian socio-cultural and academic contexts are expected to cause acculturative stress for international students living and studying in Ghanaian universities. This study used an explanatory sequential design to evaluate how assertiveness, self-efficacy, and social support assist these students in coping with the consequences of acculturative stress. The International Students Acculturative Experiences Questionnaire (ISAEQ), consisting of questions relating to demographics, Acculturative Stress Scale for International Students (ASSIS), Student Stress Inventory, General Self-Efficacy Scale, Rathus Assertiveness Schedule, and the modified Index of Social Support, were completed by 256 respondents from two universities in Accra, Ghana. Results showed that health, homesickness, and perceived bias were found to be the three main factors contributing to students' acculturative stress, while fear and guilt were the least frequent factors. Additionally, there was a significant negative correlation between assertiveness and acculturative stress and between social support and acculturative stress but no significant correlation between self-efficacy and acculturative stress. Significant differences were also found in the acculturative stress levels of international students depending on their continent of origin. We recommend the development of curricula that include specific intercultural courses to enable international students develop cultural literacy and awareness that will aid in lowering acculturative stress levels.

Keywords: Acculturation, acculturative stress, international students, Ghana, study abroad

Introduction

Since the mid-twentieth century, the phenomenon of studying abroad, whether for a short or lengthy period, has been on the rise, and there is no indication that this tendency will abate anytime soon. In 2010, the Organization for Economic Cooperation and Development (OECD) estimated that by 2020 at least 6 million international students will be engaged in tertiary education worldwide. More than half of these international student numbers are expected to study in traditional destinations of international education such as Western Europe, Australia and North America. It is

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critical to demonstrate that nations other than those in North America and Europe are locations to pursue international education. Historical data (e.g., Open Doors report, 2009) indicated that there were particularly significant increases among students going to less traditional destinations to study, with those electing to study in African nations going up by 18%. Ghana is one such location that continues to attract a lot of international students to its institutions of higher learning. Research has demonstrated that international students promote diversity, raise global awareness, and provide a platform for both host country students and international students to learn about issues from a broader global perspective (e.g., Mahmoud et al. 2020, Shu et al. 2020, Smith and Khawaja 2011, Sylwia et al. 2024, Zhao and Schartner 2024).

However, the pursuit of education beyond national borders comes with acculturative pressures that international students must navigate using various coping and adjustment mechanisms (Koo et al. 2023, Okolie and Manyeruke 2024, Reid et al. 2024). International students upon arrival in a new country must adapt to stressors related to cultural differences, language barriers, academic styles, separation from home, poor social integration, and problems with daily life tasks (Malay et al. 2023, Mekonen and Adarkwah 2023, Mori 2000). Also, their adjustment problems vary by country of origin, race and ethnicity, language proficiency, academic concerns, financial status, depression, and whether they come from collectivist or individualist cultures (Koo et al. 2023, Koppenborg et al. 2024, Lashari et al. 2023, Okolie and Manyeruke 2024, Reid et al. 2024, Wilson et al. 2023, Wilton and Constantine 2003).

International students come from a variety of cultural, social, religious, and political backgrounds, and they have beliefs and values that are comparable to or dissimilar to those of host countries and institutions. Regardless of their differences, international students share several features when it comes to acculturation. This paper examines the sources of acculturative stress, how assertiveness, self-efficacy and social support affect acculturative stress and whether there are continental differences in dealing with acculturative stress among international students in two Ghanaian universities.

Literature Review

Pioneers of acculturation research have defined acculturation as the dual process of cultural and psychological change that takes place due to contact between two or more cultural groups and their individual members (e.g., Berry 2006, Williams and Berry 1991, Smith and Khawaja 2011). International students' experience of stressors emanating from their encounter with a new culture can lead to a kind of stress commonly referred to as acculturative stress which is the psychological and physical discomfort experienced within a new cultural environment (Malay et al. 2023, Zheng and Ishii 2023). However, international students, who can manage their anxieties and uncertainties by accurately understanding the hosts' behaviours and attitudes experience less stress in the acculturation process (Soufi Amlashi et al. 2024, Wu et al. 2024). Studies have revealed that international students from Asia, Africa, Latin America, and the Middle East are more likely than those from the US and Europe to experience

severe felt discrimination, regardless of how effectively they control their stress levels (Benita 2021, Koo et al. 2023, Hou 2024).

How adjustment develops is multifaceted and depends upon reasons for migration, cultural differences and similarities, the host society's response, and the migrant's personality (Berry 2005, Le and Huyen-Nguyen 2024, Wu et al. 2024). Since acculturation is also a psychological adaptive process occurring on an individual level, international students' level of assertiveness and sense of self-efficacy, which are part of their personality, are important intrapersonal variables that could impact the acculturation process. Several studies have observed that international students upon arrival in their new environment experience many problems, the most reported ones being decreased self-esteem and lack of assertiveness as well as language barriers, academic demands, food issues, homesickness, and loss of social support and status (Çimşir and Kaynakçı 2024, Hofhuis et al. 2023, Poyrazli et al. 2002, Jin et al. 2023).

Extensive studies in the past three decades have acknowledged that self-efficacy is a crucial factor in dealing with acculturative stress among international students (Almukdad and Karadag 2024, Ayhan and Bilgin 2024, Poyrazli et al. 2002, Yusoff 2011). Yusoff (2011) studied 185 international undergraduate students from a variety of countries who were studying in one of the public higher education institutions in Malaysia. They aimed at investigating the relationship between self-efficacy, social support, and socio-cultural adjustment and found that there was a positive correlation between self-efficacy and cultural empathy. It has been argued that international students who are more self-efficacious are better in cross-cultural situations that are more stressful and entail more uncertainty compared to those who are less self-efficacious (Almukdad and Karadag 2024, Ayhan and Bilgin 2024, Yusoff 2011). Other studies show that self-efficacy plays a critical role in how international students deal with acculturative stress socio-culturally and psychologically (e.g., Soufi Amlashi et al. 2024).

Interacting in social situations that required English speaking or speaking in their native language and how this affects levels of social self-efficacy among international students have been evaluated and results show significant differences in social self-efficacy as a function of language (e.g., Lin and Betz 2009, Teng and Wang 2023, Wang et al. 2023). Also, studies have emphasized the critical role that self-efficacy plays when interacting in social situations and in dealing with acculturative stress among international students in the context of language use (Almukdad and Karadag 2024, Teng and Wang 2023). Several studies have identified language barriers to be arguably the most significant predictor of acculturative stress among international students and immigrants (Pedersen et al. 2011, Zhang and Mena 2024, Zheng and Ishii 2023). Nonetheless, compared to their peers who find it difficult to form these kinds of social ties, international students who form early friendship networks with citizens of their host countries typically handle acculturative stress better (Dwumah Manu et al. 2023, Kristiana et al. 2022, Lashari et al. 2023).

International students' excellent assertiveness abilities are associated with their sense of control over the unfamiliar, complex, and diverse demands that a new cultural setting brings (Lee and Ciftci 2014, Ma et al. 2020, Rhein and Jones 2020). Lee and Ciftci (2014) examined the impact of assertiveness, as well as variables

such as multicultural personality, social support, and academic self-efficacy, on socio-cultural adjustment among 330 Asian international students studying in the United States. They discovered that assertiveness helped students to speak up during class, ask for help from colleagues and professors, and thus successfully complete academic tasks. Individuals who displayed assertiveness successfully navigated acculturative stress, despite coming from collectivist cultures where expressing opinions is seen as disrespectful towards authority figures (Lee and Ciftci 2014, Ma et al. 2020, Rhein and Jones 2020).

Theoretical Framework - The Acculturative Stress Model

The acculturative stress model by Berry et al. (1987) examines how individuals adjust to new cultural environments and the stress that may arise during the process. Stress occurs when individuals face challenges in balancing their original cultural identity with engaging in the host culture. Several factors influence this stress. The host society's attitude towards diversity plays a significant role, as multicultural societies that accept cultural differences tend to create less stress compared to societies that enforce a single cultural standard (Akhtar 2012, Williams and Berry 1991). The type of acculturating group also matters, with voluntary respondents, like immigrants, experiencing less stress than those with limited choices, such as refugees. Stress levels are also impacted by factors like voluntariness, movement, and the duration of contact with the host society; international students and temporary residents often face higher stress due to brief interactions and limited social support.

Berry et al. (1987) identified four strategies for acculturation based on how individuals approach maintaining their cultural heritage and engaging with the host culture, including integration, assimilation, separation, and marginalization. Integration refers to adopting the host culture while preserving one's original identity. Assimilation involves embracing the host culture entirely and letting go of one's heritage. Separation focuses on maintaining one's heritage while avoiding interaction with the host culture. Marginalization, on the other hand, arises when individuals reject both their heritage and the host culture, often due to exclusion or discrimination (Sam and Berry 2010). Integration and assimilation are associated with lower stress, while marginalization and separation lead to greater difficulties. Additionally, individual demographic and psychological factors shape how people experience acculturation. Attributes such as age, gender, education, past experiences, attitudes toward change, and coping mechanisms all influence the process and its outcomes. These factors explain why cultural transitions can be relatively easy for some, while others may experience significant stress or mental health challenges (Berry 1997).

The Current Study

The current study empirically presents the sources of acculturative stress, high to low intensity, for international students in Ghana. Further, the study tests two hypotheses. First, we hypothesized that there will be a significant negative relationship between assertiveness, social support, self-efficacy and acculturative stress. Second, we hypothesized that there will be significant continental differences in acculturative

stress levels among the international student respondents. Specifically, international students from societies that are culturally similar to Ghana will experience less acculturative stress whereas those from cultures that are culturally different from Ghana will experience more stress.

Methods

This study is part of a large case study on acculturative stress among international students in Ghana. Based on the research questions and the underpinning theoretical construct, a quantitative approach was followed to achieve the study's objectives using a sequential explanatory method. Specifically, the QUAN→qual technique grounded in the theory of structuration (Giddens 1984) was adopted as a lot of the data collected was done through questionnaire administration and a relatively smaller amount of data was collected through qualitative in-depth interviews. Also, this method was used since the literature revealed that not much scientific research has been done on international students' acculturative stress experiences in Ghana.

Case Studies

The University of Ghana (UG) and Wisconsin International University College (WIUC) were chosen as case study institutions due to UG's premier status and high international student population. UG aims to have 10% of its students being international students. During the time of data collection, UG had a total of 38,562 students and 1,122 (3%) of them were international students from Africa, the Americas, Europe, and Asia. WIUC had a diverse student population of 3,673, with 991 being international students, primarily African students from the West Africa sub-region. WIUC also hosted a small number of US American students through a MoU with Concordia University.

Population and Sampling

The population for this study comprised 786 and 991 international students from UG and WIUC respectively. Using Scheafer et al.'s (1986) formula for calculating a representative sample, the sample size for the survey at UGG came to 213, representing 27% of the population of international students (see calculation below).

$$n = \frac{Np(1-p)}{(N-1)B^2/4 + p(1-p)}$$

$$n = \frac{786 \times 0.24(1-0.24)}{(786-1) \times 0.05^2/4 + 0.24(1-0.24)}$$

$$n = 213$$

Where, population size, p = proportion of people to be identified (p is always measured at 0.24); B = 0.05 representing the confidence level. It was observed that

most international students at WIUC were African international students. Since most of the international students at the UG were also African, the large presence of Africans in the sample for the study had to be critically considered to avoid the results of the study being skewed in a particular direction. As such, the Nasiunma (2000) formula for selecting a representative sample was used in arriving at the sample for WIUC.

$$n = \frac{NC^2}{C^2 + (N-1)e^2}$$

Where, N = population size; n = sample size; C = co-efficient of variation (0.5) and e = level of precision (0.05). Using this formula, the sample size for WIUC was found to be 91 representing approximately 10% of the total international student population (see calculation below).

$$n = \frac{991*0.5^2}{0.5^2 + (991-1)*.05^2}$$

$$n = 90.9$$

The expected total sample size for the study was therefore 304. A total of 256 out of 304 international students from both UG and WIUC participated in the study representing a response rate of 84%. The mean age of respondents was 21.89 years (SD = 2.94). Sixty-four percent (64%) of the total respondents were female.

Instruments

The main instrument for the survey was the International Students Acculturative Experiences Questionnaire (ISAEQ) comprising of a section on the socio-demographics of Respondents. Followed by a section consisting of the Acculturative Stress Scale for International Students (ASSIS) developed by Sandhu and Asrabadi (1994). The original ASSIS is a 36-item inventory rated on a 5-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5), that assesses adjustment problems. It comprises of seven subscales, including *Perceived Discrimination* (8 items; e.g., I am treated differently in social situations), *Homesickness* (4 items; e.g., I feel sad leaving my relatives behind), *Perceived Hate/Rejection* (5 items; e.g., Others do not appreciate my cultural values), *Fear* (4 items; e.g., I feel insecure here), *Stress due to Change/Culture Shock* (3 items; e.g., I feel uncomfortable to adjust to new cultural values), *Guilt* (2 items; e.g., I feel guilty that I am living a different lifestyle here), and *Nonspecific Concerns* (10 items; e.g., I worry about my future for not being able to decide whether to stay here or to go back). The ASSIS' internal consistency has been reported to range from .87 to .95 for the total items (Poyrazli et al., 2004; Yeh & Inose, 2003).

The ASSIS was modified for this study as two new items (37 and 38) were added to specifically tap stress related to health and disease. The two new items therefore formed the 8th subscale of the modified ASSIS. These items are, "*I find it*

difficult to know what to do and where to go when I am ill” and *“I worry a lot because in the event of a disease outbreak I don’t think the health care system here can manage the situation”*. Upon pilot testing the modified ASSIS, a Cronbach’s alpha of 0.86 for the entire scale while the added subscale of health and disease also had a Cronbach’s alpha of 0.68. The original ASSIS provides a sum score for total acculturative stress as well as scores for the seven subscales of acculturative stress, with higher scores indicating greater acculturative stress. The modified ASSIS was summed in the same manner, with a mean score of 2.59 and above indicating high acculturative stress and scores below the mean indicating low acculturative stress.

The third section of the ISAEQ consisted of the 30-item Rathus Assertiveness Schedule (RAS) developed by Rathus (1973). The RAS measures how people would behave in specific situations in which assertive and outgoing behaviour can be used. It is shown to have moderate to high test-retest reliability ($r = .78$; $p < .01$). On a scale of +3 through to -3, scores on the assertiveness schedule can vary from +90 to -90 with a score of 26 for women indicating they exceeded 80% of women in the sample, and a score of 15 for men indicating they exceeded 55-60% of men in the sample. The pilot study found a moderate internal consistency (coefficient $\alpha = 0.64$) for the RAS and a mean value of -.03. Therefore, scores above the mean value on the RAS indicated high assertiveness while scores below indicated low assertiveness.

Further, the 10-item General Self-Efficacy Scale (GSS) by Schwarzer and Jerusalem (1995), which assesses a general sense of perceived self-efficacy with the aim of predicting coping with daily hassles as well as adaptation after experiencing all kinds of stressful life events formed the fourth section. Its Cronbach’s alpha ranged from .76 to .90, with the majority in the high .80s. Responses on the GSS are made on a 4-point scale ranging from 1 (not at all true) to 4 (exactly true). Total scores are obtained by summing up all 10 items to yield the final composite score with a range from 10 to 40. Scores ranging from 10-19 were indicative of low self-efficacy, 20-29 were indicative of moderate self-efficacy, and scores ranging from 30-40 were indicative of high self-efficacy. Cronbach’s alpha obtained from the pilot study was 0.74 with a mean value of 3.06. For the current study, values below the mean value indicated low self-efficacy.

Finally, the modified version of the Index of Social Support by Eustace (2007) which measures social support formed the last section of the ISAEQ. The modified ISS is a 44-item inventory with a Cronbach’s alpha of .90. It is rated on a 5-point Likert scale ranging from 0 (not applicable) to 4 (often). A composite social support score is obtained by adding all the scores on the items with higher scores indicating higher levels of social support. For the current study, the mean value for the modified ISS obtained from the pilot study was 2.34 with scores below the mean indicating low social support. The pilot also found Cronbach’s alpha of 0.88 for the modified ISS.

Results

Sources of Acculturative Stress among International Students

The determination of the sources of acculturative stress for international students in Ghana was arrived at by calculating the means and standard deviations of students on the eight (8) sub-scales of the modified ASSIS. As shown in Table 1, health issues were the most significant source of acculturative stress for international students ($M=2.90$, $SD=1.24$). The main concerns of international students were their fear of getting sick and not knowing what to do, as well as their lack of confidence in the Ghana's healthcare system to meet their needs in the event of a disease outbreak. Respondents' concerns about health issues can be understood from the perspective that the ease of spread of communicable diseases and the endemicity of malaria are both prominent concerns in the West African region and therefore in Ghana. Homesickness ($M=2.89$, $SD=0.85$) ranked as the second most important source of acculturative stress for the respondents. They reported how dearly they missed the people from their home countries. They also indicated that they experienced distress due to being separated from family, friends, and relatives, as well as from their previous way of life.

The third major source of acculturative stress for respondents was the issue of perception of discrimination ($M=2.84$, $SD=0.69$). They reported experiencing significant stress due to unequal treatment and societal differences. Stress due to change was rated as the fourth most stressful acculturative experience. It is obvious from Table 1 that adjusting to new foods and tastes as well as eating habits were found to be a stressful experience for the respondents. The fifth source of acculturative stress was perceived hatred. Being treated with disdain and disrespect by people within the host society engenders feelings of being unwelcomed in the new culture. As Table 1 indicates, some respondents felt rejected as their values were denigrated and/or rejected by locals. Additionally, respondents reported experiencing some level of hatred by the Ghanaian people, albeit non-verbally. Non-specific concerns ranked sixth and as shown in Table 2, respondents did not engage meaningfully with locals, felt out of place in their new socio-cultural and academic environment, but did not find communicating in the English language ($M=1.96$, $SD=1.19$) to be a stressful experience.

Table 2 additionally indicates that fear ($M=2.23$, $SD=0.82$) was one of the acculturative issues that was of least concern for respondents. Respondents reported feeling safe and secure while living and studying in Ghana, allowing them to enjoy daily activities without fear. The acculturative stress issue of least concern for the respondents was guilt ($M=2.16$, $SD=1.05$). Respondents reported not experiencing much emotional or cognitive distress as they were not living a different kind of lifestyle in Ghana and therefore have not compromised any of their values.

Hypotheses Testing

The Pearson's Product Moment Correlation was used to test our hypothesis that there will be a significant negative relationship between assertiveness, social support,

self-efficacy, and acculturative stress. Table 3 shows that there was a significant negative correlation between assertiveness and acculturative stress ($r = -.13, p < .05$) among the respondents. Also, there was a significant negative correlation between social support and acculturative stress ($r = -.19, p < .05$) but there was no significant correlation between self-efficacy and acculturative stress ($r = -.016, p = .79$).

For the second hypothesis which stated that there will be significant continental differences in acculturative stress levels of respondents, the One-Way Analysis of Variance (ANOVA) was used. As is evident from Table 4, significant differences were found in the respondents' acculturative stress levels and their continent of origin ($F=12.842, p < .05$). However, it was unclear where these differences lay hence a Post Hoc analysis of the mean scores was conducted using Bonferroni Multiple Comparison. Prior to the Post Hoc analysis, the means and standard deviations of acculturative stress among respondents from the continents of Africa, Asia, America and Europe were determined to elucidate the ANOVA results. Table 5 summarizes the means and standard deviations, and Table 6 summarizes the results of the post hoc analyses.

It is evident from Table 6 that there were significant differences in the acculturative stress levels between respondents from Africa and those from Europe. The mean scores from Table 5 show that African international students experienced higher acculturative stress ($M = 2.73, SD = 0.58$) compared to European international students ($M = 2.12, SD = 0.26$) thereby giving credence to the results shown in Table 6. Also, there was significant difference in the acculturative stress levels between international students from Africa ($M = 2.73, SD = 0.58$) and America ($M = 2.30, SD = 0.48$). This means that African international students reported higher acculturative stress than their American counterparts. Finally, there were significant differences in the acculturative stress levels between respondents from Asia ($M = 2.69, SD = 0.47$) and Europe ($M = 2.12, SD = 0.26$). Thus, Asian international students had higher acculturative stress levels than their European counterparts.

Table 1. Health, Homesickness, Perceived Discrimination, Stress due to Change, Perceived Hatred Subscale Items in ASSIS

Rank	Subscale and Item content	N	Mean	Std. Deviation
1	Health Subscale (2 items)		2.90	1.24
37	<i>I find it difficult to know what to do and where to go when I am ill</i>	256	2.81	1.23
38	<i>I worry a lot because in the event of a disease outbreak I don't think the health care system here can manage the situation.</i>	256	3.00	1.26
2	Homesickness Subscale (4 items)		2.89	0.85
1	<i>Homesickness for my country bothers me</i>	256	2.81	1.25
6	<i>I feel sad living in unfamiliar surroundings here</i>	256	2.08	.95
21	<i>I miss the people and country of my origin</i>	256	3.91	1.19
35	<i>I feel sad leaving my relatives behind</i>	256	2.74	1.31
3	Perceived Discrimination Subscale (8 items)		2.84	0.69
3	<i>I am treated differently in social situations</i>	256	3.56	1.09
9	<i>Others are biased towards me</i>	256	2.96	1.11
11	<i>Many opportunities are denied to me</i>	256	2.50	1.18
14	<i>I feel that I receive unequal treatment</i>	256	3.13	1.15
17	<i>I am denied what I deserve</i>	256	2.57	1.73
23	<i>I feel that my people are discriminated against</i>	256	2.77	1.29
4	Stress Due to Change Subscale (3 items)		2.82	0.92
2	<i>I feel uncomfortable to adjust to new foods and/or new eating habits</i>	256	3.01	1.32
13	<i>I feel overwhelmed that multiple pressures are placed upon me after moving here to study</i>	256	2.84	1.14
22	<i>I feel uncomfortable to adjust to new cultural values</i>	256	2.62	1.12
5	Perceived Hatred Subscale (5 items)		2.48	0.82
4	<i>I feel rejected when people are sarcastic toward my cultural values</i>	256	2.95	1.18
15	<i>People in this country show hatred toward me non-verbally</i>	256	2.58	1.17
20	<i>I feel rejected when others don't appreciate my cultural values</i>	256	2.32	1.15
24	<i>People in this country show hatred toward me through their actions</i>	256	2.40	1.14
33	<i>People from here show hatred toward me verbally</i>	256	2.14	1.07

Source: Field data

Table 2. *Non-Specific Concerns, Fear, and Guilt Subscale Items in ASSIS*

Rank	Subscale and Item content	N	Mean	Std. Deviation
6	Non-Specific Subscale (10 items)		2.43	0.65
5	<i>I feel nervous to communicate in English</i>	256	1.96	1.19
8	<i>I feel intimidated to participate in social activities</i>	256	2.53	1.65
12	<i>I feel angry that my people are considered inferior here</i>	256	2.48	1.35
16	<i>It hurts when people don't understand my cultural values</i>	256	3.06	1.15
19	<i>I feel low because of my cultural background</i>	256	1.67	.80
25	<i>I feel that my status in this society is low due to my cultural background</i>	256	2.11	1.00
28	<i>I don't feel a sense of belonging (community) here</i>	256	2.68	1.19
30	<i>I feel sad to consider my people's problems</i>	256	2.63	1.14
32	<i>I feel some people from here don't associate with me because of my ethnicity</i>	256	2.75	1.27
36	<i>I worry about my future for not being able to decide whether to stay or go back</i>	256	2.40	1.21
7	Fear Subscale (4 items)		2.23	0.82
7	<i>I fear for my personal safety because of my different cultural background</i>	256	2.41	1.15
18	<i>I have to frequently relocate for fear of others</i>	256	1.83	.91
27	<i>I feel insecure here</i>	256	2.34	1.16
31	<i>I generally keep a low profile here due to fear</i>	256	2.36	1.10
8	Guilt Subscale (2 items)		2.16	1.05
10	<i>I feel guilty to leave my family and friends behind</i>	256	2.06	1.00
34	<i>I feel guilty that I am living a different lifestyle here</i>	256	2.26	1.11

Source: Field data

Table 3. Summary of Pearson's Product Moment Correlation among Study Variables

Variables	Acculturative Stress	Academic Stress	Assertiveness	Self-Efficacy	Social Support
Acculturative Stress	-	.30*	-.13*	-.07	-.19*
Academic Stress		-	-.17*	-.03	-.08
Assertiveness			-	.16*	.14*
Self-Efficacy				-	.19*

$p < .05$

Source: Field data

Table 4. Summary of One-Way ANOVA on Acculturative Stress and Continental Differences

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	16479.06	3	5493.02	12.84*	.00
Within Groups	107787.71	252	427.72		
Total	124266.77	255			

$p < .05$

Source: Field data

Table 5. Means and Standard Deviations of Acculturative Stress and Continent of Origin

Variable	Europe (N = 15)	American (N=59)	Asia (N=15)	Africa (N=168)
Acculturative Stress	M (SD)	M (SD)	M (SD)	M (SD)
	2.12 (0.26)	2.30 (0.48)	2.69 (0.47)	2.73 (0.58)

Source: Field data

Table 6. Bonferroni Multiple Comparison of Acculturative Stress and Continental Differences

Continent	Continents	Mean Difference
Africa	Asia	1.40
	Europe	22.94*
	America	16.11*
Asia	Africa	-
	Europe	21.53*
	America	14.70
Europe	Africa	-
	Asia	-
	America	-6.82

$p < .05$

Source: Field data

Discussion

Sources of Acculturative Stress

In terms of specific acculturative stressors, international students in Ghana most frequently reported feeling stressed out about their health. Respondents in this study stated that they struggled to know what to do and where to go when they became ill and that they felt anxious because they believed Ghana's health system might not be able to support them in the case of an epidemic. However, this finding is not consistent with some of the literature (e.g., Hartjes et al. 2009, Heywood et al. 2012, Lopez-Velez and Bayas 2007) which indicate that when international students visit developing nations where they run the risk of contracting infectious diseases, they frequently grossly underestimate the corresponding health risks. It is plausible that international students who come to study in Ghana take their physical health into account quite strongly. It is also possible that the ease of spread of communicable diseases such as cholera, Ebola, Covid and Mpox among others, as well as the extensive media attention such diseases tend to receive locally and internationally, may have accounted for health being the topmost reported stressor among the respondents. Another plausibility is the endemicity of malaria in Ghana and the ease of contracting malaria if one does not take preventive and early detection protocols into account.

Homesickness was also found to significantly contribute to acculturative stress among respondents, causing grief due to missing family, friends, and activities in their home countries, and the added challenge of establishing friendship networks in a new culture. This is confirmed by other studies from different parts of the world that have found that homesickness was one of the most critical acculturative stress factors for international students (e.g., Çimşir and Kaynakçı 2024, Hofhuis et al. 2023, Jin et al. 2023, Rajab et al. 2014, Yi et al. 2003). The inability to communicate in local languages may cause international students to become homesick, hindering their ability to make friends and express feelings to locals. Where international students express themselves in English, some of them may not have the requisite language skills to communicate their feelings as they may not be native English speakers. For those who may be native English speakers, there could be a situation of cross-cultural miscommunication between them and their Ghanaian peers. Such experiences may have contributed to the students' feelings of homesickness.

Perceived discrimination which has been found to be associated with psychological distress (Xiong et al. 2025) and with the difficulty of making friends with locals (Mori 2000, Yang et al. 2023) was another major source of acculturative stress for respondents. The nature of perceived discrimination was quite complex though as the feeling of being treated differently had to do with receiving better treatment than local Ghanaian students. An example is residential facilities at UG where international students tend to live in housing with double-occupancy and in some cases single occupancy rooms with amenities such as generator sets to ensure uninterrupted electricity supply and boreholes to ensure uninterrupted water supply. The absence of some of these amenities in the housing facilities where most Ghanaian students live is perceived by international students as discriminatory, causing them to experience acculturative stress. Perhaps international students want to be treated as

every other student and not be given preferential treatment. Also, discrimination surrounding race was found in this study, corroborating studies that found international students experiencing some form of intentional and unintentional racial discrimination (e.g., Briscoe et al. 2022). In this case, Ghanaians' unequal treatment of international students based on continent of origin also contributed to the perception of discrimination.

An added complexity regarding perceived discrimination as a source of acculturative stress is that African international students reported being treated as second-rate internationals in comparison to other international students even though they are all international students. The negative stereotypes associated with African international students manifest in unfriendly behaviour towards them by their Ghanaian counterparts. This finding is corroborated by other studies which established that compared to European international students and US students, international students from countries in Asia, Africa, Latin America, and the Middle East tend to report significant perceived discrimination (e.g., Benita 2021, Hanassab 2006, Hou 2024, Koo et al. 2023, Lee and Rice 2007). Also, it is imperative to point out that the perception of discrimination among African international students, particularly Nigerian students receiving preferential treatment compared to other Africans, is prevalent due to the large number of Nigerian students studying in Ghana. This perception leads to superiority and inferiority complexes, causing tension and conflicts, despite international education promoting diversity and intercultural competence.

Fear and guilt as acculturative stressors engendered the least stress for international students in Ghana, and this is consistent with Akhtar's (2012) findings among international students in Germany. Regarding fear, the finding suggests a group of international students who feel very safe in the country and on the university campuses irrespective of where they came from. A possible explanation is that they may have received very thorough safety and security protocols during the early stages of their stay. Consequently, having lived in Ghana for at least two months, they could compare Ghana to their countries of origin and found Ghana to be very safe for them personally and for their belongings. Similarly, regarding guilt, the finding is indicative of a group that is not experiencing self-blame for leaving their families behind to pursue studies in Ghana. A possible explanation could be the influential role parents played in their wards' pursuit of studies in Ghana, especially among degree-seeking international students. For international students visiting from Europe and North America for a semester, the values of independence, self-belief, and self-confidence could account for their lack of guilt as the decision to pursue international education was made independently.

Continental differences in Acculturative Stress levels of International Students

Significant continental differences were found in the acculturative stress experiences of students in this study, with African international students being the most stressed in comparison to the other international students. Even though this finding is consistent with studies done in different parts of the world (e.g., Akhtar 2012, Sam et al. 2015, Yu et al. 2014), it was not expected in this present study. We assumed that international students from societies where the culture is different from

what pertains in Ghana will be the most stressed. However, contrary to findings by Berry et al. (1987) and Yeh and Inose (2003) suggesting that the greater the difference between the home and host cultures the greater the stress, it was rather African international students who reported experiencing the most acculturative stress. Sam et al.'s (2015) study for example, revealed that West African students in UG were less satisfied with life compared to their colleagues from the "western world" and that is probably the same for this study. Another probable explanation for the high acculturative stress experiences of African international students could also be their expectations. These students may have expected the Ghanaian society to be like what they already know from their home countries and therefore they were emotionally unprepared for the culture shock they likely experienced. Meanwhile, the other international students may have come to study and live in Ghana with the expectation of difference, making them emotionally prepared for the experience of a likely difficult and challenging new culture. It is possible they may have read about Ghana, or they may have received some pre-departure orientation prior to arrival in Ghana. Their expectation of difference and resultant prior preparations may have equipped them with skills and resources to better deal with acculturative stress.

It is also probable that the communal lifestyles that most of the African internationals have lived in their home countries, where family, friends, and relatives are always readily available to assist in one way or another, contributed to their feeling of acculturative stress in Ghana. In communal societies, the value orientation tends to promote group harmony and cohesion while debasing self-autonomy. Gyekye (2003) notes that among Africans, values tend to be derived from the experiences of the people trying to live together in harmony. Therefore, going away from home and not having such family presence anymore would engender a heavy sense of loss and homesickness. Meanwhile, the European or American who reported the least acculturative stress may have lived an independent life and may not necessarily be experiencing that level of familial loss. This, coupled with the fact that some Ghanaians give European and American international students preferential treatment or even defer to them in some cases, makes for less acculturative stress experiences. These findings regarding the region of origin and acculturative stress levels are strikingly similar to that of Yu et al. (2014), who found that despite cultural similarities between Asian countries and China, Asians in that country experienced high levels of acculturative stress alongside Africans.

Relationship between Assertiveness, Social Support, Self-efficacy and Acculturative Stress

The significant inverse relationship established between international students' assertiveness levels and their acculturative stress experiences indicates that international students in Ghana were able to speak up for themselves and were able to openly and freely express their thoughts and feelings about a situation. This psychosocial skill of assertiveness seemingly proved to be an effective tool for them in dealing with acculturative stress in an effective and appropriate manner without being offensive or aggressive. This is consistent with other studies which established a link between assertiveness skills and students' sense of control over new, challenging and diverse

demands that a new cultural environment presents (e.g., Lee and Ciftci 2014, Mostafa and Mohamed 2020). Also, the significant inverse relationship found between social support and acculturative stress is consistent with findings by Poyrazli et al. (2004) from US colleges. It is probable that being assertive made it easier for the international students to create friendship networks, especially with local students. The friendship networks with Ghanaian students and the pertinent informational support they likely received from them proved helpful for international students in understanding the culture and society of Ghana as well as the academic culture of the universities thereby helping them become adjusted to the socio-cultural and academic environments of the country as well as the universities. Studies such as Hendrickson et al. (2011), Kristiana et al. (2022), Dwumah Manu et al. (2023) and Lashari et al. (2023) have established the critical role that friendship networks with host country nationals plays in helping international students to deal with acculturative stress.

Furthermore, self-efficacy was inversely correlated with acculturative stress even though the relationship was not significant, and this is consistent with earlier studies (e.g., Lin and Betz 2009, Yussoff 2011). They found that students who were more self-efficacious were better in cross-cultural situations that were more stressful and entailed more uncertainty compared to those who were less self-efficacious. Generally, international students in this study exhibited a high sense of self-efficacy as they reported that they possess the necessary psychological resources to deal with any challenging unforeseen intercultural situations that the Ghanaian sociocultural environment presents. Findings of the present study give credence to Bandura's (1997) Social Cognition Theory by demonstrating that indeed self-efficacy beliefs are very important in successfully dealing with acculturative stress. Finally, the present study makes the point that irrespective of culture of origin, when international students are assertive, receive good social support and have a sense of self-efficacy they experience minimal acculturative stress, or are better able to deal with stressful cross-cultural situations.

Conclusions

Acculturative stress is experienced by international students in Ghana. However, this study's findings indicate that it is not debilitating. Health, homesickness, and perceived discrimination were found to be the major sources of acculturative stress whereas fear and guilt were found to be minor sources. International students from the African continent experienced significantly higher acculturative stress compared to their counterparts from Europe, America and Asia. Assertiveness, social support, and self-efficacy were effective in mitigating the effects of acculturative stress with assertiveness and social support being significantly inversely related to acculturative stress. Given these findings, the development of curricula that contain intercultural courses to help international students develop cultural literacy, skills, and awareness aimed at lowering acculturative stress levels will be very useful for mitigating the acculturation experiences of international students. Universities have a responsibility to inform their international students of all the avenues of support available at the

university, such as counselling, academic, health, safety and security support, and support against all forms of harassment, so that international students will know where to go when they are faced with challenging intercultural situations. These avenues must be continuously advertised and have dedicated round-the-clock telephone contact or hotlines that are easily accessible. The Counselling Centres of the various universities with all the counselling, psychological, and psychiatric expertise at their disposal, must help international students by providing them with cognitive and behavioural resources and skills to know how to deal with the challenges of homesickness and the perception of discrimination as well as social rejection.

Additionally, the Counselling Centres must provide international students with assertiveness training sessions so that international students, especially those from the African continent, will know how to speak up, seek assistance, and engage with persons in the universities in a culturally competent and effective manner. Such interventions have the tendency to minimize acculturative stress and help the international student with the overall adjustment process. Universities that do not have the services of such critical personnel to support international students must take steps to employ the services of such persons. Finally, peer mentorship programs must be instituted to support international students to aid them transit smoothly into the Ghanaian society in general and the universities in particular. Governmental institutions like the Ghana Tourism Authority and the Ministry of Tourism and Culture who are tasked with the responsibility of promoting tourism in Ghana must engage with stakeholders to train their staff by organizing targeted adult education programmes on intercultural competence and sensitivity workshops to better serve all travellers to Ghana.

Recommendations for Future Research

This study focused only on international students within the two universities which served as case studies and therefore the findings may not be applicable to other international travellers to Ghana. Future studies that include other international travellers should be conducted to ascertain how they also deal with acculturative stress in Ghana. Also, our findings are based on self-reports by students and so social desirability could have affected the results one way or another. Even though Hofstede's (2001) cultural dimensions was not a consideration for this study, it is evident from our findings that the cultural dimension of individualism-collectivism impacted the assertiveness, self-efficacy and social support of international students in dealing with acculturative stress. Future studies must therefore consider analysing the role of such cultural dimensions and how they affect dealing with acculturative stress among international students.

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