

Journal of International Students
Volume 13, Issue 3 (2023), pp. 393-414
ISSN: 2162-3104 (Print), 2166-3750 (Online)
<https://jistudents.org/>

The Influence of Self-determined Motivation and Goals of International Students to Study Abroad on Subjective Well-Being: The Mediating Role of Psychological Needs Satisfaction and the Moderating Role of Socio-Cultural Adjustment

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ABSTRACT

The primary objective of this study was to examine the potential impact of self-determined motivation on the satisfaction of psychological needs and, subsequently, the subjective wellbeing of international students. Additionally, the present study sought to investigate the correlation between students' aspirations to pursue international education and their level of psychological need fulfilment. In addition to this, the study sought to examine the moderating influence of sociocultural adjustment on the relationship between psychological needs satisfaction and subjective wellbeing among international students. In order to accomplish this objective, a combination of convenience sampling and survey methods was employed to select a sample of 267 international students who were enrolled in various universities within Saudi Arabia. The data that was gathered was subjected to analysis using statistical software programmes such as SPSS and AMOS. This analysis aimed to examine both direct and indirect effects, encompassing concepts such as mediation and moderation. The findings of the study indicate a positive correlation between the fulfilment of psychological needs and the subjective well-being of international students enrolled in different universities in Saudi Arabia. Additionally, there exists a positive correlation between self-determined motivation, the establishment of goals for studying

abroad, and the satisfaction of psychological needs among international students. Moreover, it was discovered that the fulfilment of psychological needs serves as a constructive mediator in the association between self-determined motivation and subjective wellbeing, as well as between goals for studying abroad and subjective wellbeing. In a nutshell, it was determined that sociocultural adjustment serves as a beneficial moderator in the association between the satisfaction of psychological needs and the subjective wellbeing experienced by international students. This study makes a valuable contribution to the existing body of literature by examining the combined influence of self-determined motivation and study abroad goals on the subjective wellbeing of international students. Previous research has not extensively explored this particular combination of factors. Furthermore, the present study makes a significant contribution to the existing literature by examining the mediating influence of psychological need satisfaction and the moderating influence of sociocultural adjustment. This research investigates a comprehensive empirical model pertaining to the field of international students.

Keywords: Self-determined motivation, psychological needs satisfaction, goals for studying abroad, subjective wellbeing, sociocultural adjustment

1. INTRODUCTION

The phenomenon of student mobility for higher education has become pervasive as a result of heightened globalisation and internationalisation. The international mobility of students for educational purposes not only affords them the chance to enrol in esteemed academic institutions but also facilitates the acquisition of valuable life skills. These skills encompass the assimilation of diverse cultural knowledge and the development of one's personality through exposure to a variety of social and cultural values. However, the process of relocating to a different country and acclimating oneself to the new environment is not devoid of difficulties. Individuals who embark on educational journeys in foreign countries often experience feelings of isolation and homesickness, which can have a detrimental impact on their overall subjective well-being (Yang et al., 2018). A significant portion of previous research has primarily concentrated on the examination of cultural adaptation and the corresponding difficulties encountered by international students during their educational experiences in foreign countries.

However, the existing body of literature on the subject of motivational factors and their ability to predict the satisfaction of psychological needs and subsequent psychological wellbeing among international students is notably scarce (Ozer, 2015; Yang et al., 2018). Drawing upon the framework of social determination theory, the primary objective of this study is to investigate the relationship between students' self-determined motivation to pursue international education and their autonomous inclination to engage in such endeavours.

Specifically, the focus lies on individuals' intrinsic desire and personal volition to study abroad, independent of any external influences or coercions. This implies that a student aspires to pursue international education in order to fulfil their individual objectives and align with their personal values. They perceive the endeavour of studying abroad as personally significant and worthwhile (Cho et al., 2021; Jin et al., 2022).

The objective of this study is to examine the potential impact of self-determined motivation on the satisfaction of psychological needs and, consequently, the subjective well-being of international students. The premise underlying this argument is that students who exhibit self-motivation and demonstrate agency in their actions and decision-making are more likely to adapt and acclimatise successfully to the host country. Furthermore, these students are more receptive to embracing the new culture, thereby developing resilience and perseverance to effectively navigate the challenges associated with relocating to a different location (Yang et al., 2018). Additionally, the present study seeks to investigate the correlation between students' aspirations to pursue international education and their level of psychological need fulfilment. If an individual possesses a specific objective that they strive to achieve through pursuing education in a foreign country, it is more probable that their psychological needs will be fulfilled, consequently leading to a positive impact on their subjective psychological well-being (Chirkov et al., 2007; Fakunle, 2021; Zhang & Zhang, 2017).

In addition to this, the present study seeks to examine the potential moderating influence of sociocultural adjustment on the relationship between psychological needs satisfaction and subjective wellbeing among international students, an area that has received limited research attention in the past. This study makes a valuable contribution to the existing literature by examining the combined influence of self-determined motivation and study abroad goals on the subjective wellbeing of international students. Previous research has not extensively explored this particular combination of factors. Furthermore, the examination of the mediating role of psychological needs satisfaction and the moderating role of sociocultural adjustment in this study makes a significant contribution to the existing literature. This research investigates a comprehensive empirical model pertaining to the field of international students.

2. LITERATURE REVIEW

2.1 Self-determined Motivation to Study Abroad

Self-determination theory is the mechanism to assess “the degree to which an individual’s behaviour is performed autonomously versus being controlled externally” (Yue & Lu, 2022). Autonomous motivation encompasses intrinsic motivation, which arises solely from an individual's internal drive to engage in a

task based on personal interest. Furthermore, it is worth noting that autonomous motivation can encompass internalised extrinsic motivation, which refers to motivation that initially stems from external sources but has been internalised by an individual (Cho et al., 2021; Jin et al., 2022). Within the realm of international students' study motivation, internalised or identified motivation refers to the belief held by students that pursuing education abroad will lead to enhanced career prospects (Chirkov et al., 2007; Yue & Lu, 2022).

Conversely, motivation can also be externally regulated. One form of regulated motivation is referred to as extrinsic regulation, wherein an individual's motivation is contingent upon the existence of external incentives or the avoidance of penalties. In addition, it is worth noting that controlled motivation can manifest as introjected regulation, whereby an individual engages in a task to evade feelings of shame and guilt associated with non-performance and failing to meet external expectations (Cho et al., 2021; Jin et al., 2022). External factors and demands imposed by external influences are the source of controlled motivation (Yue & Lu, 2022). Within the framework of autonomous motivation, integrated regulation refers to the cognitive process by which individuals consciously align their tasks and activities with their personal values and identity.

In the context of international students, the concept of integrated regulation pertains to the pursuit of studying abroad as a means to fulfil personal objectives and align with individual values. Conversely, the concept of identified regulation pertains to individuals taking ownership of tasks that hold personal significance to them. The motivation of international students can be characterised by their perception of studying abroad as personally significant and meaningful (Cho et al., 2021; Jin et al., 2022). Controlled motivation refers to a state in which an individual's actions are driven by external factors, such as meeting expectations and gaining approval from others, as well as enhancing one's self-esteem.

Within this framework, introjected regulation specifically pertains to the motivation that arises from an individual's internalised pressure to conform to societal norms and standards, thereby seeking validation and bolstering their sense of self-importance. In the context of international students, introjected motivation refers to the inclination to pursue studying abroad with the aim of garnering approval or avoiding negative emotions such as shame, guilt, or disappointment from family members or significant individuals. Conversely, external regulation refers to the phenomenon in which motivation is derived from external sources of pressure. For international students, studying abroad may be perceived as a means of evading familial reprimand or censure (Cho et al., 2021; Jin et al., 2022).

Self-determined motivation is situated on the autonomous end of the motivation continuum and is characterised by an internal locus of control wherein individuals possess agency over their actions and tasks. "Self-determined behaviour typically feels congruent with one's own will and preferences, reflecting intrinsic interests and personally endorsed values" (Sheldon et al., 2017). Previous research has extensively examined the correlation between self-

determined motivation and psychological well-being (Chirkov et al., 2007; Yang et al., 2018). Students who exhibit self-motivation and demonstrate agency in their actions and decision-making tend to adapt more effectively and integrate more readily into the host country, displaying a greater willingness to embrace and engage with the new culture. This enables students to develop resilience and perseverance in order to effectively address the difficulties that arise when adapting to a new environment (Yang et al., 2018).

In contrast, students who possess regulated motivation with regards to pursuing education in a foreign country often encounter significant challenges in terms of psychological and social adjustment within their new environment (Yang et al., 2018). Therefore, self-determined motivation enhances the psychological well-being of international students. Regarding the fundamental mechanism of this correlation, it can be posited that individuals possess inherent psychological needs, namely relatedness, competence, and autonomy, which facilitate their optimal growth and functioning (Ryan & Deci, 2017). Relatedness refers to “the feelings of meaningful connection and belongingness with significant others, rather than isolation or loneliness.” Competence refers to “feelings of effectiveness and mastery rather than feelings of failure or incompetence”. Autonomy refers to “feelings of volition and self-authorship, rather than feelings of being forced to act” (Yang et al., 2018).

According to self-determination theory, rather than just satisfying one or two of the psychological needs, an individual's level of wellbeing depends on all three of them. It has been found that the satisfaction of these three psychological needs is associated with an individual's subjective well-being and their ability to effectively cope with stressful situations (Sheldon et al., 2010; Yang et al., 2018). Prior research has also documented a correlation between self-determined motivation and the fulfilment of psychological needs (Gunnell et al., 2014; Weinstein & Ryan, 2010). This statement is grounded in the notion that individuals who engage in actions driven by their personal preferences and desires are more likely to attain a sense of satisfaction compared to those who engage in actions primarily to appease others or meet external expectations. Students who independently choose to study abroad, driven by their own motivation, experience a heightened sense of freedom in their new environment, thereby fulfilling their need for autonomy.

Additionally, individuals are more inclined to exhibit superior performance in academic settings, thereby fulfilling their inherent need for competence. Additionally, students who possess self-determined motivation are more inclined to cultivate stronger social connections and engage in social activities that fulfil their need for relatedness (Kwok et al., 2013; Weinstein & Ryan, 2010). Therefore, individuals who possess intrinsic motivation and self-determination exhibit a greater capacity to fulfil their psychological needs, as they are not constrained by familial pressures and expectations. Furthermore, their heightened interest and curiosity regarding novel environments and contexts

further contributes to their advantageous position in having their psychological needs satisfied (Yang et al., 2018). Thus, based on the above discussion, the following hypotheses can be proposed,

H1: Psychological needs satisfaction is positively associated with subjective wellbeing of international students.

H2: Self-determined motivation is positively associated with psychological needs satisfaction of international students.

H3: Psychological needs satisfaction mediates the relationship between self-determined motivation and subjective well-being of international students.

2.2 Goals for Studying Abroad

According to social determination theory, the performance of a task is influenced not only by the degree of autonomy or control but also by the goals and objectives individuals strive to achieve. Hence, the motivation of an individual to engage in a task is contingent upon both the degree of autonomy afforded and the objectives they aspire to accomplish through task execution. The objectives of an individual to execute a task can alternatively be categorised as intrinsic or extrinsic (Lin et al., 2019). The inherent objectives of an individual in engaging in various tasks or activities may encompass the cultivation and sustenance of interpersonal connections, the societal role and impact of the individual, and the advancement of their personal character. Conversely, individuals may possess extrinsic motivations when engaging in tasks or activities, such as the pursuit of popularity, fame, monetary gain, financial success, or physical attractiveness.

Previous studies have demonstrated that the inherent objectives of an individual are inclined to fulfil the personal psychological necessities of autonomy, relatedness, and competence (Alhadabi & Karpinski, 2020; Zhang & Zhang, 2017). While intrinsic goals are more effective in fulfilling an individual's personal psychological needs compared to extrinsic goals, This is because extrinsic goals tend to rely on external factors and are susceptible to being influenced by material possessions such as status symbols, prestige, and fashion statements (Zhang & Zhang, 2017). All of these factors collectively contribute to the adverse state of an individual's well-being. The objectives of an individual may encompass life aspirations that align with the notion of values, which serve as guiding principles in one's life. Goals pertaining to a particular activity may align with these overarching principles that guide one's life.

However, it is important to note that these goals are primarily contingent upon the specific circumstances and context surrounding the activity, as well as the individuals participating in it (Guns et al., 2012). The objectives of international students in pursuing education abroad are contingent upon the particular circumstances or environment. The circumstances in one's own country, one's career goals, future aspirations, and relationships with family are just a few

examples of the variables that can affect one's goals. The authors Chirkov et al. (2007) and Fakunle (2021) have discussed various factors that influence the political situation in one's home country and the availability of opportunities. The categorization commonly employed to analyse migration factors includes push and pull factors (Lomer, 2018). The push factors encompass the presence of accessible and excellent educational opportunities in the host country, while the pull factors encompass the reputation and prestige of the institutions that individuals aspire to gain admission to, the calibre of the teaching faculty, and the potential employment prospects that may arise following the attainment of an international degree (Fakunle, 2021)

Previous studies have shown that the accomplishment of personal goals affects the satisfaction of psychological needs and subjective well-being. Specifically, when individuals achieve their goals, it increases the likelihood of satisfying their psychological needs, which in turn enhances their overall well-being (Chirkov et al., 2007; Fakunle, 2021; Zhang & Zhang, 2017). Consequently, drawing from the aforementioned discourse on the impact of international students' study abroad goals on their fulfilment of personal needs and subsequent subjective wellbeing, the ensuing hypotheses can be posited,

H4: Goals to study abroad are positively associated with psychological needs satisfaction of international students.

H5: Psychological needs satisfaction mediates the relationship between goals to study abroad and subjective well-being of international students.

2.3 Sociocultural Adjustment

The concept of sociocultural adjustment among international students in a new context and environment holds significant importance, as these students are required to navigate and engage with individuals from diverse cultural backgrounds. Additionally, they must adapt to a novel cultural setting that encompasses distinct values, customs, and traditions (Chang et al., 2013). In order to effectively adapt to a new culture, individuals must enhance and refine their skillset, enabling them to comport themselves in a manner that aligns with the cultural norms and expectations of the host country (Chatterjee et al., 2022; Kai Liao et al., 2021). Acculturation is a fundamental concept that pertains to the socio-cultural adjustment of international students in their host country. It refers to the psychological changes experienced by individuals when they are exposed to a new culture while still maintaining their values from their home country (Sam & Berry, 2010).

The psychological adjustment of an individual can vary when transitioning between two distinct cultures, namely their home country and the host country. There exist four distinct orientations or acculturation strategies: integration, separation, assimilation, and marginalisation. Integration is

characterised by a strong orientation towards both the home and host cultures. Separation, on the other hand, involves a greater emphasis on the culture of the home country compared to that of the host country. Assimilation is characterised by a high orientation towards the host culture in contrast to the home culture. Lastly, marginalisation is characterised by a low orientation towards both the home and host cultures (Ozer, 2015). Previous studies have indicated that integration acculturation is the most effective approach for facilitating the sociocultural adjustment of international students in their host country.

This approach enables students to both assimilate into the new cultural practices and preserve their own cultural values from their home country (Nguyen & Benet-Martínez, 2013). The sociocultural adjustment of international students in the host country is influenced by factors such as the disparity and distance of cultural regions as well as the language barrier, which includes the level of proficiency in the English language (Ozer, 2015). The experience of residing independently in a foreign nation, coupled with the heightened academic demands, can evoke feelings of isolation, nostalgia, and a sense of detachment from the local populace for international students. Prior research has documented the correlation between sociocultural adjustment and the overall wellbeing of individuals who engage in studying or working abroad in unfamiliar cultural environments (Bastien et al., 2018; Ganotice Jr et al., 2022; Zhao, 2010).

This study examines the role of sociocultural adjustment as a moderator in the association between psychological need satisfaction among international students and their subjective wellbeing. Previous research has not examined the potential moderating influence of sociocultural adjustment on the subjective wellbeing of international students. Therefore, this study represents a significant contribution to the existing literature. Based on the preceding discourse, the subsequent hypothesis is posited,

H6: Sociocultural adjustment moderated the relationship between psychological needs satisfaction and subjective well-being of international students.

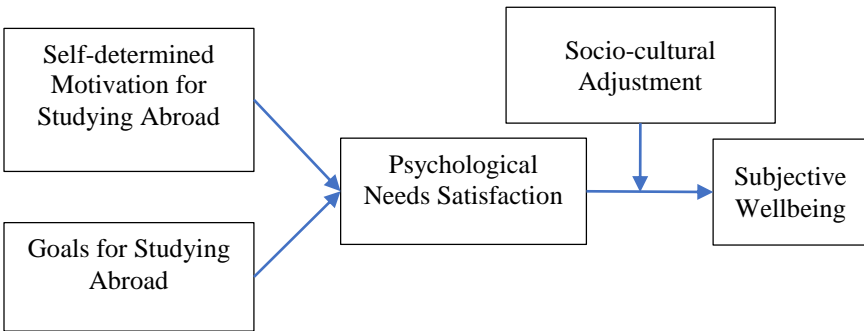


Figure 1. Conceptual model of the Study

3. METHODOLOGY

3.1 Research Instrument

The study's variables were assessed using pre-existing measurement questionnaires that had been previously validated. Sheldon et al. (2017) and Yang, Zhang, and Sheldon (2018) conducted research that served as the basis for the measurement scale for the variable of self-determined motivation. The measurement scale utilised to assess the variable of goals pertaining to studying abroad was derived from the research conducted by Chirkov et al. (2007). The measurement of psychological need satisfaction was conducted by modifying the instrument developed by Sheldon and Hilpert (2012). The measurement of subjective wellbeing was conducted by modifying the instrument used in the research conducted by Liang and Zhu (2015). The measurement of sociocultural adjustment was conducted by modifying the instrument developed by Mumford (1998). The variables were assessed using a 5-point Likert scale. The corresponding measurement items/statements for each variable along with their source are presented in Table 1 below:

Table 1. Measurement Tools

| Items | References |
|---|-------------------|
| Self-determined Motivation | Sheldon et al. |
| Intrinsic Motivation | (2017) and |
| I moved to _____ because I thought it would be fun and interesting. | Yang et al. |
| I moved to _____ because I thought it would be challenging. | (2018) |
| I moved to _____ because I thought I would enjoy it | |
| I moved to _____ because I thought it would be an exciting thing to do | |
| I moved to _____ because I was highly interested in doing this. | |
| External Regulation | |
| I moved to _____ because others (parents, friends etc.) were pushing me to do this | |
| I moved to _____ because others (relatives and friends) forced me to do this. | |
| I moved to _____ because I would have gotten into trouble if I did not. | |
| I moved to _____ because I felt that I have to do so. | |
| I moved to _____ because I want to gain praise or other rewards from important people | |

I moved to _____ because important people (i.e., parents, professors) will like me better.

Identified Regulation

I moved to _____ because it was personally important to me

I moved to _____ because this is what I really want to do with my life.

I moved to _____ because it was one of my life goals.

I moved to _____ because it was of great personal value to me.

I moved to _____ because it was an opportunity that I highly valued

I moved to _____ because it will help me achieve something important

Positive Introjection

I moved to _____ because I want to feel proud of myself

I moved to _____ because I want to prove to myself that I am capable

I moved to _____ because it boosts my self-esteem

I moved to _____ because I want to feel good about myself

I moved to _____ because it makes me feel like an important person

Negative Introjection

I moved to _____ because I would feel guilty if I didn't do it

I moved to _____ because I would feel ashamed if I didn't do it

I moved to _____ because I would feel like a failure if I didn't do it

I moved to _____ because I don't want to feel bad about myself

Goals for Studying Abroad

I came to study abroad because I wanted to avoid the unacceptable political and social conditions in my home country.

I came to study abroad because I wanted to avoid ethnic and social conflicts in my home country.

I came to study abroad because I wanted to have more freedom and be independent.

I came to study abroad because I am planning to immigrate in the future.

I came to study abroad because I was concerned about security and crime in my home country.

I came to study abroad because a foreign university degree will open good employment opportunities for me.

Chirkov et al.
(2007)

I came to study abroad because I wanted to master a foreign language.

I came to study abroad because I wanted to get a good education.

I came to study abroad because I wanted to expand my career and life opportunities.

Psychological Needs Satisfaction

Sheldon and
Hilpert (2012)

Autonomy

I am free to do things my own way.

I have a lot of pressures I could do without

My choices expressed my “true self.”

There are people telling me what I had to do.

I am really doing what interests me.

I have to do things against my will.

Competence

I was successfully completing difficult tasks and projects

I experienced some kind of failure, or was unable to do well at something

I took on and mastered hard challenges

I did something stupid, that made me feel incompetent.

I did well even at the hard things.

I struggled doing something I should be good at.

Relatedness

I felt a sense of contact with people who care for me, and whom I care for

I was lonely

I felt close and connected with other people who are important to me.

I felt unappreciated by one or more important people

I felt a strong sense of intimacy with the people I spent time with.

I had disagreements or conflicts with people I usually get along with.

Subjective Wellbeing

Liang and Zhu
(2015)

Satisfaction with Life

In most ways, my life is close to my ideal

The conditions of my life are excellent

I am satisfied with my life

So far, I have achieved the important things I want in life

If I could live my life over, I would change almost nothing

Positive and Negative Affect

I generally feel enthusiastic

I generally feel determined

I generally feel excited
I generally feel interested
I generally feel inspired
I generally feel alert
I generally feel active
I generally feel strong
I generally feel attentive
I generally feel scared
I generally feel afraid
I generally feel upset
I generally feel nervous
I generally feel irritable
I generally feel distressed
I generally feel hostile

Sociocultural Adjustment

Mumford
(1998)

I feel strain from the effort to adapt to a new culture
I miss my family and friends back home
I feel generally accepted by the local people in the new culture
I wish to escape from this new environment altogether
I feel confused about my role or identity in the new culture
I found somethings in my new environment shocking or
disgusting
I feel helpless or powerless when trying to cope with the new
culture
I feel anxious or awkward when meeting local people
When talking to people, I can't make sense of their gestures or
facial expressions
I feel uncomfortable if people stare at me when I go out
When I go out shopping, I feel as though people may be trying
to cheat me
I am finding it an effort to be polite to my hosts"

3.2 Target Population. Sampling Technique and Data Collection

The data for conducting numerical statistical analysis to test the hypotheses of the study was collected through the use of a survey method, specifically a self-administered questionnaire. The study focused on international students as the target population. Hence, a sample of 267 international students studying at various universities in Saudi Arabia was selected using the convenience sampling technique due to the unavailability of a comprehensive list of international students across different universities. The data that was gathered was subjected to analysis using statistical software programmes such as SPSS and AMOS. These programmes were utilised to examine both direct and indirect effects, which

encompassed the concepts of mediation and moderation. The respondents' participation in the study was entirely voluntary, and informed consent was obtained from them prior to data collection. The data provided by the participants was treated with strict confidentiality.

4. ANALYSIS

The data analysis for this study was performed using a two-step methodology. Initially, the researchers evaluated the measurement model of the study by conducting confirmatory factor analysis. The determination of reliability, as well as the convergent and discriminant validity of all constructs, was conducted. Subsequently, the evaluation of the structural model was conducted, employing path analysis as a means to examine the hypotheses posited in the study.

4.1. Measurement Model Assessment

The initial stage in structural equation modelling involves evaluating the measurement model. The evaluation of the measurement model encompasses the determination of both construct reliability and validity. The assessment of the reliability of all variables in the study was conducted using Cronbach's alpha, composite reliability, and average variance extracted (AVE). The table presented below displays the Cronbach's alpha coefficients for all variables examined in the study. Notably, all variables exhibited coefficients exceeding the threshold of 0.7, which is widely acknowledged as the accepted standard value. This implies that the variables exhibit internal consistency. Furthermore, it is noteworthy that the composite reliability of all variables in the study exceeded the standard accepted threshold, thereby offering additional support for the reliability of these variables. Moreover, the Average Variance Extracted (AVE), which measures the reliability and convergent validity of the variables, exceeds 0.5 for all variables in the study.

Table 2. Reliability and Convergent Validity

| Variable | Cronbach's α | CR | AVE |
|----------------------------------|---------------------------------------|-----------|------------|
| Self-determined motivation | 0.801 | 0.541 | 0.822 |
| Goals to study abroad | 0.790 | 0.600 | 0.833 |
| Psychological needs satisfaction | 0.711 | 0.587 | 0.807 |
| Sociocultural adjustment | 0.764 | 0.531 | 0.799 |
| Subjective wellbeing | 0.730 | 0.544 | 0.768 |

The following table, Table 3, presents comprehensive information regarding the discriminant validity of all variables examined in the study. The table presents the square roots of the average variance extracted (AVE) for each variable in the

diagonal, as well as the correlation statistics among all variables within the diagonal. The table reveals that none of the correlation values exceed the square root of the Average Variance Extracted (AVE) for any variable. This finding supports the discriminant validity of the variables, indicating that they are distinct from one another and do not overlap.

Table 3. Discriminant Validity

| Variable | 1 | 2 | 3 | 4 | 5 |
|----------------------------------|----------|----------|----------|----------|----------|
| Self-determined motivation | 0.648 | | | | |
| Goals to study abroad | 0.487** | 0.600 | | | |
| Psychological needs satisfaction | 0.345* | 0.480 | 0.587 | | |
| Sociocultural adjustment | 0.225** | 0.344* | 0.331 | 0.557 | |
| Subjective wellbeing | 0.397* | 0.310** | 0.287** | 0.267** | 0.536 |

Note: The bold values in diagonal are square roots of AVEs of the variables. The values which are off diagonal are correlations among the variables.

The fit indices for the measurement model of the study are presented in Table 4. Fit indices offer a comprehensive evaluation of the extent to which the observed data aligns with the proposed model. The table demonstrates that the fit indices fall within the acceptable ranges, indicating that the provided model is a suitable fit. Consequently, the measurement model adheres to established standards in terms of quality.

Table 4. Measurement Model Fit Indices

| Fit Indices | Overall Model Score | Acceptable Model Fit | Acceptable Baseline |
|--------------------|----------------------------|-----------------------------|----------------------------|
| CFI | 0.92 | Accept | ≥0.90 |
| AGFI | 0.84 | Accept | ≥0.80 |
| RMSEA | 0.046 | Accept | <0.10 |
| CMIN/df | 1.97 | Accept | <3 |
| TLI | 0.90 | Accept | ≥0.89 |
| IFI | 0.91 | Accept | ≥0.90 |

4.2. Structural Model Assessment

The subsequent phase in the process of structural equation modelling involves evaluating the structural model. The assessment of the quality of a structural model begins by examining the fit indices. The table presented below displays the fit indices for the structural model. It is evident that all of these fit indices fall within acceptable ranges, indicating that the structural model is deemed to be a satisfactory fit. Consequently, it is reasonable to draw inferences from the model.

Table 5. Structural Model Fit Indices

| Fit Indices | Overall Model Score | Acceptable Model Fit | Acceptable Baseline |
|--------------------|----------------------------|-----------------------------|----------------------------|
| CFI | 0.93 | Accept | ≥0.90 |
| AGFI | 0.87 | Accept | ≥0.80 |
| RMSEA | 0.011 | Accept | <0.10 |
| CMIN/df | 1.22 | Accept | <3 |
| TLI | 0.94 | Accept | ≥0.89 |
| IFI | 0.96 | Accept | ≥0.90 |

Moreover, the study aimed to examine the hypotheses by evaluating both the direct and indirect effects. The following table, Table 6, presents the outcomes of the hypothesised direct effects as outlined in the study. The table demonstrates a positive correlation between the satisfaction of psychological needs and the subjective wellbeing of international students enrolled in different universities in Saudi Arabia. This finding supports the first hypothesis (H1) of the study. This implies that as students' psychological needs are fulfilled, their overall well-being improves. When individuals have their psychological needs fulfilled, their mental health improves, and their overall well-being is enhanced.

Additionally, it has been observed that self-determined motivation is positively correlated with the fulfilment of psychological needs among international students in Saudi Arabia. This finding supports the second hypothesis (H2) proposed in the study. This implies that students who possess self-motivation or autonomous motivation to pursue international study opportunities are more likely to have their psychological needs, including autonomy, relatedness, and competence, fulfilled. Moreover, the analysis of the table reveals a positive correlation between the objectives of studying abroad and the fulfilment of psychological needs among international students in Saudi Arabia.

This finding supports the fourth hypothesis (H4) posited in the study. This implies that students who possess well-defined objectives pertaining to studying abroad, such as advancing their careers, accessing enhanced opportunities, gaining exposure, and fostering future development, are more inclined to have their psychological needs fulfilled.

Table 6

| Relationship | t-value | p-value | Status |
|---|----------------|----------------|---------------|
| Psychological Needs Satisfaction → Subjective Wellbeing | 1.99 | 0.012 | Accept |
| Self-determined motivation → Psychological Needs Satisfaction | 2.64 | 0.019 | Accept |
| Goals for studying abroad → Psychological Needs Satisfaction | 3.67 | 0.014 | Accept |

The study's hypothesised mediating effects are presented in Table 7. The table reveals that there is a positive mediation effect of psychological needs satisfaction on the relationship between self-determined motivation and subjective well-being among international students in Saudi Arabia. This finding supports the third hypothesis (H3) of the study. This implies that students who possess self-determined or autonomous motivation to pursue education in foreign countries fulfil the psychological needs of international students in Saudi Arabia, resulting in an overall improvement in the subjective well-being of these students.

The table reveals that there is a positive mediating effect of psychological needs satisfaction on the relationship between goals for studying abroad and subjective wellbeing of international students in Saudi Arabia. This finding supports H5 of the study. This implies that students who possess specific objectives for pursuing education abroad experience a more satisfactory fulfilment of their psychological requirements, thereby leading to an overall improvement in the subjective wellbeing of international students in Saudi Arabia.

Table 7. Hypothesis Testing - Mediating Effects of Psychological Needs Satisfaction

| Relationship | t-value | p-value | Status |
|---|---------|---------|--------|
| Self-determined motivation → Subjective Wellbeing | 2.33 | 0.016 | Accept |
| Goals for studying abroad → Subjective Wellbeing | 3.69 | 0.037 | Accept |

The results of the hypothesised moderating effects in the study are presented in Table 8. The table illustrates that sociocultural adjustment serves as a positive moderator in the association between psychological needs satisfaction and subjective wellbeing among international students enrolled in different universities in Saudi Arabia. This finding supports the sixth hypothesis of the study. This implies that an improvement in sociocultural adjustment among students studying in a foreign country leads to an enhanced relationship between the satisfaction of psychological needs and the subjective wellbeing of said students. The psychological and mental well-being of students can be enhanced through successful adaptation to the cultural norms and practices of the host country.

Table 8. Hypothesis Testing-Moderation Effect of Sociocultural Adjustment

| Relationship | t-value | p-value | Status |
|--|---------|---------|--------|
| Psychological Needs Satisfaction*Sociocultural Adjustment → Subjective Wellbeing | 3.54 | 0.018 | Accept |

5. DISCUSSION

The primary objective of this study was to examine the potential impact of self-determined motivation on the satisfaction of psychological needs and, consequently, the subjective wellbeing of international students. Additionally, the research endeavour sought to investigate the correlation between students' aspirations to pursue international education and their level of psychological need fulfilment. In addition to this, the study also sought to examine the moderating influence of sociocultural adjustment on the relationship between psychological needs satisfaction and subjective wellbeing among international students. In order to accomplish this objective, the researchers employed the convenience sampling method and the survey method to select a sample of 267 international students who were enrolled in various universities in Saudi Arabia. The data that was gathered was subjected to analysis using statistical software packages such as SPSS and AMOS.

This analysis aimed to examine the direct and indirect effects of variables, including the concepts of mediation and moderation. The findings of the research indicate a positive correlation between the fulfilment of psychological needs and the subjective well-being experienced by international students enrolled in different universities within Saudi Arabia. The present discovery aligns with previous theories and scholarly works, as it is in accordance with the principles of self-determination theory. This theory posits that an individual's overall well-being is contingent upon the attainment of psychological needs satisfaction, specifically encompassing the needs for autonomy, relatedness, and competence (Yang et al., 2018). The research findings additionally indicate that the satisfaction of these three psychological needs is associated with the subjective wellbeing of individuals (Sheldon et al., 2010; Yang et al., 2018).

Furthermore, there is a positive correlation between self-determined motivation to pursue international education and the fulfilment of psychological needs; this finding aligns with previous research (Gunnell et al., 2014; Weinstein & Ryan, 2010). This assertion is grounded in the notion that individuals who engage in actions driven by their personal preferences and desires are more inclined to derive satisfaction compared to those who engage in actions primarily to appease others or fulfil external obligations. International students in Saudi Arabia who independently choose to study abroad, driven by self-determined motivation, experience a heightened sense of freedom in their new environment, thereby fulfilling their autonomy needs. Moreover, individuals are more inclined to exhibit superior performance in academic settings, thereby fulfilling their inherent need for competence. In addition, it has been observed that students who possess self-determined motivation tend to cultivate stronger social relationships and engage in social endeavours, thereby fulfilling their need for relatedness (Kwok et al., 2013; Weinstein & Ryan, 2010).

Moreover, it was discovered that the fulfilment of psychological needs played a constructive role as a mediator in the association between self-determined motivation and the subjective well-being of international students enrolled in different

universities in Saudi Arabia. International students in Saudi Arabia who possess self-determined or autonomous motivation to pursue education abroad experience fulfilment of psychological needs, including relatedness, competence, and autonomy. This fulfilment ultimately contributes to the improvement of students' subjective wellbeing. In addition to this, it was discovered that the aspirations of international students to pursue education abroad were positively correlated with their fulfilment of psychological needs. Previous studies have demonstrated that the intrinsic objectives of an individual have a higher propensity to fulfil the personal psychological necessities of autonomy, relatedness, and competence (Alhadabi & Karpinski, 2020; Zhang & Zhang, 2017).

The objectives of international students in pursuing education overseas may be shaped by various factors, including the socio-political climate of their home country, personal career aspirations, familial ties, the prevailing political landscape, access to opportunities, and similar considerations. The findings also demonstrate that psychological needs satisfaction plays a mediating role in the relationship between goals for studying abroad and an individual's subjective well-being. This is because the attainment of goals increases the probability of satisfying an individual's psychological needs, which subsequently enhances their overall well-being (Chirkov et al., 2007; Fakunle, 2021; Zhang & Zhang, 2017). This implies that international students in Saudi Arabia who possess specific objectives for pursuing education overseas experience a more effective fulfilment of their psychological requirements, leading to an overall improvement in their subjective wellbeing.

The study's findings indicate that sociocultural adjustment plays a significant role in moderating the relationship between psychological needs satisfaction and subjective wellbeing among international students enrolled in different universities in Saudi Arabia. Prior research has documented the correlation between sociocultural adjustment and the overall wellbeing of individuals who engage in studying or working abroad in unfamiliar cultural environments (Bastien et al., 2018; Ganotice Jr et al., 2022; Zhao, 2010). The fulfilment of psychological needs resulting from enrollment in international universities contributes to enhanced well-being among international students in Saudi Arabia. The correlation between sociocultural adjustment and the well-being of students is strengthened as their psychological and mental health experiences improvement when they successfully adapt to the cultural norms and practices of the host country.

5.1. Theoretical Implications

This study makes a valuable contribution to the existing body of literature by examining the combined influence of self-determined motivation and study abroad goals on the subjective wellbeing of international students. Previous research has not extensively explored this particular combination of factors. Additionally, the examination of the mediating influence of psychological needs satisfaction and the moderating influence of sociocultural adjustment is a significant contribution to the

existing body of literature. This study aims to empirically test a comprehensive model pertaining to the experiences of international students.

5.2. Practical Implications

The study's findings have significant practical implications for both international students and the universities that admit them. The significance of self-motivation in the adaptation, psychological and mental wellness, and overall academic attainment and performance of international students in host country universities cannot be overstated. Students who experience motivation driven by external factors, such as familial or peer pressures, often encounter stress when faced with the need to adapt to a new environment, resulting in a detrimental impact on their academic performance.

Therefore, it is imperative that students exercise autonomy in selecting their own trajectory and are not subjected to undue influence from external circumstances. Furthermore, it has been observed that students who possess well-defined and self-determined goals experience enhanced mental well-being during their study abroad experiences, as opposed to individuals whose goals have been externally imposed. The research also emphasised the significance of sociocultural adaptation, a critical determinant for international students to succeed in their new cultural surroundings. This necessitates the implementation of measures by students, parents, and educational institutions to foster student motivation and ensure that they independently choose to pursue international study for the fulfilment of their personal objectives.

5.3. Limitations and Future Research Directions

Future researchers may be able to effectively address the study's limitations. The research methodology employed in this study is quantitative, thereby imposing certain limitations on the range and comprehensiveness of the responses obtained. Future researchers may conduct qualitative investigations by collecting interview data from international students in order to gain a deeper understanding of the factors involved. Furthermore, in order to obtain a comprehensive perspective, future researchers may consider incorporating the viewpoints of both parents and institutions. Future researchers may consider investigating additional factors beyond motivation and goals that influence the mental and psychological wellbeing of international students during their studies at international universities.

6. ACKNOWLEDGEMENT

This work was supported through the Ambitious Funding track by the Deanship of Scientific Research, Vice Presidency for Graduate Studies and Scientific Research, King Faisal University, Saudi Arabia [Grant 4598].

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