



# PSYCHOSOCIAL INFLUENCES ON FIRST-YEAR INTERNATIONAL STUDENTS LEARNING OUTCOMES IN CHINESE UNIVERSITIES

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## ABSTRACT

*This study examined the psychosocial state of international students and the resultant effect on the students' first-year learning outcome. Of interest was whether participants first-year experiences would influence learning. We grounded this study on student involvement and psychosocial theories. A total of 600 international students from 83 Chinese Universities participated in an online survey. The psychosocial factors were measured with both the First Year University Experience Questionnaire and 12-point GHQ questionnaires and analysed with hierarchical multiple regression. The result was statistically significant explaining 24%, 27% and 33% variance on international students' learning outcomes, after controlling for all the psychosocial factors. Moreover, the results suggested the need for University administrators to provide counselling support and promote sustainable psychosocial oriented programs.*

**KEYWORDS:** *First-year experiences, international students, learning outcomes, psychosocial influence*

## INTRODUCTION

Globalization provides opportunity for people to move from one country to another in pursuit of international education. The number of international students moving to Asia to study is increasing on a yearly basis. In 2018-19 academic year, 492,185 international students were admitted in Chinese Universities and programs (The Ministry Of Education, 2019). Even though, these admitted students have had universities experience in their home country, they still show signs of maladjustment to their new university. Further, they exhibit negative adjustment characteristics like loneliness, stress and depression (Smith & Khawaja, 2011; Spencer-Oatey, Dauber, Jing, & Lifei, 2017). In fact, these types of psychosocial problems are very critical, if not checked can degenerate into sever forms thereby affecting the students' total adjustment in the new environment. Because recent studies have identified the interconnection between international students' adjustment and other outcomes including suicidal ideation, learning outcomes and academic integration (Han, Pistole, & Caldwell, 2017; Karaman, & Watson, 2017; Lowinger et al., 2016).

In adjusting to Chinese university environment, two classes of international students emerge. The categorization of international students is based on their period of adjustment. Some acclimatized quickly whereas others take a long time to adjust to the university community. The "slow adjusters" begin to develop symptoms of anxiety and depression due to homesickness. The highly depressed international students find it difficult to socially integrate in their respective universities. Therefore, an increase in their social exclusion make them lonely.

The present study acknowledges that each foreign student has unique educational experiences that affect their learning. These unique experiences inform the analysis of the extent psychosocial factors like depression, anxiety, and loneliness (Brunsting, Zachry, & Takeuchi, 2018a; Rajkumar, Sooraj, Sandeep, & Harish, 2015) influences the learning outcomes of international students



## LITERATURE REVIEW

The concept of this study utilised past literature and psychosocial theories. According to Rodgers (1980), psychosocial theories incorporate emotions, actions and thought to create a rich and unique image of life. Again, those psychosocial theories examine students' concerns, changes in thought, emotions, behaviour, appreciation, and relationships at college (Chickering & Reisser, 1993). The key theories underpinning this study are W-curve and Student involvement theories.

The w-curve theory claim that first-year international students undergo several stages of mental and emotional adjustment in their transition process in the host country (Gullahorn & Gullahorn, 1962). Accordingly, Zeller and Mosier (1993) identified five distinct phases students go through in adapting to college life. Kunuroglu, van de Vijver, and Yagmur (2016) posits that the w-curve shows a psychological pattern first year college students experience. The next theory, student involvement theory emphasis the magnitude and value of students' emotional and physical energy in their university experience (Astin, 1984). Further, the student involvement theory claims students' college experiences are positively related to their learning and individual advancement. Moreover, a typically uninvolved student disregards study, spends little time on campus and avoid social activities (Astin, 1984). These two theories support the claim that psychological and social environment have effect on first-year international students' academic experience. For example, previous studies identify emotional and environmental factors key determinants that influence first year students learning outcomes (Alexander C. McCormick, Jillian Kinzie, 2013; Pace, 1980; Salami, 2011; Tom, 2015).

In addition, Betancourt, Spielman, Onyango, and Bolton (2009) claim young adults are prone to anxiety, depression, and prolonged psychosis. And if not checked will lead into psychosocial disorders and negative characteristics such as maladjustment, poor interpersonal relationships, weak social connections, and social malfunction in the host country (Gilborn et al. 2006). Smith, Grealish, and Henderson, (2018) posits that the complexity of first year international students lifestyle with associated psychosocial problems affect their ability to learn. Also. Gruber, Fub, Voss, and Glaser-Zikuda (2010) recognize that psychological factors influence the sense of satisfaction of students within the college. Because most international students moving to a new country might be the first time they stayed outside of their family, therefore struggle with adjustment in the new environment.

### Learning Outcomes

Even though the purpose of learning outcomes cannot be underestimated in this study, the international students' psychosocial state is paramount. Because learning outcome is either perceived as a mechanism for educational and instructional planning or as a measure of effectiveness and accountability (Proitz, 2010). According to Entwistle (2005) most educationalist define learning outcome as a measure of students' ability to complete a course of study or achieve a grade and finally the type of degree awarded to them. And yet Astin (1984) recognize learning outcome as a function of the students' profound engagement in the study environment the university present. A recent report on "Trends in the first year experience in Australian universities" (2000) stated that "social nature of the university experience has the potential of making a positive impact on academic performance, and influence the individual's sense of competence" (Krause, Hartley, James, & Mcinnis, 2005)

Again, Rychen (2004) identify two broad forms of learning outcomes- cognitive and non-cognitive outcomes. Shavelson and Huang (2003) elucidated cognitive learning outcomes as a product which span from specific to global knowledge domains and/or problem-solving ability. Moreover, non-cognitive learning outcomes involves changes in the development of certain beliefs, intercultural competence and ability to successfully live in a different society without difficulties (Nusche, 2018)

## PSYCHOSOCIAL FACTORS

### Depression

In 2017, the WHO described depression as mental sickness, prolonged sadness, avoidance, guilt feeling, insomnia, and low concentration (World Health Organization, 2017). Basically, depression is among the common psychological factors that affect new students (Verschuur, Eurelings-Bontekoe, & Spinhoven, 2004). For example, a study by Smith and Khawaja (2011) found that among all the psychological symptoms university counsellors received depression ranked high on the list. Furthermore, high depression symptoms among international students destabilized their cognition, mood, and motivation (Böker & Northoff, 2018).

#### Anxiety

Anxiety is another psychosocial factor international students endure during transition. Moller, Roth, Niemiec, Kanat-Maymon, and Deci (2018) identify that students with intense anxiety worry about desertion, feel rejected and find it difficult to open up or rely on others. As a result, according to Khawaja and Duncanson (2008), such students will not discuss with their lecturers, parents and/or mental health professionals about their problems. They will rather respond negatively through avoidance of studies, having poor academic performance, and other psychological conditions. Hechanova-Alampay, Beehr, Christiansen, and Van Horn (2002) also consented that foreign students hardly overcome severe anxiety and frustrations. According to a recent study on



stress and academic performance as well as testing (Espín, Marquina, Hidalgo, Salvador, & Gómez-Amor, 2016; Gagnon & Wagner, 2016; Zandara et al., 2016) an acute stress or anxiety influence academic performance before and/or during testing. Hence, when anxiety sensations are controlled before a test can help counter negative effects of anxiety on performance. Therefore, it assist test-anxious students to perform better even under pressure (Ramirez & Beilock, 2011).

### **Loneliness**

Loneliness is the personal feeling of lack of intimated social connection with other people within a given society. It stems from the imbalances among ones desired and social relationship leading to emotional distress (Cacioppo & Cacioppo, 2018). Loneliness is a general problem which affects everybody regardless of gender, race, age, and culture (Fried et al., 2020). Most international students experience some level of isolation in any stage of their transitions. Because most of them feel distant from their friends and relatives in their native country, which lead them to keep to themselves and feel lonely (Kim, Collins, Rennick, & Edens, 2017). Studies have shown that cultural, educational, language or social disparities intensify loneliness, marginalization and explicit or implicit exclusion (Trice, 2003; Wang, 2018).

Because the needs of international students far outstripped assistance Chinese universities staff could provide, a research is needed to identify the psychological needs of international students (typically first-year international students) in their transition and adjustment. Nelson (2019) posits that the key determinants for new college students to adjust and settle well for studies are the level of assistance and resources they can access. Consequently, in most higher institutions because of the pressure placed on them to provide data on the quality of teaching and learning, they show little interest in their students' attitudes and values as well as their emotional health. Rather, focus on meeting the external universities rating institutions' requirements covering inputs, activities and scientific reports. These indices do not indicate how much effort university authorities put in solving problems relating to their students' mental health (Nusche, 2018), hence encouraging them to ignore mediation measures.

Although several studies have been conducted on psychosocial influences on international students' academic performance in USA and Europe (Brunsting, Zachry, & Takeuchi, 2018b; Fong et al., 2017; Hoti, Heinzmann, Müller, & Buholzer, 2017; Huhn et al., 2017; Witkowska, Witkowski, & Goczek, 2018), to date it is rarely seen in Chinese literature the association among psychosocial factors (e.g. depression, anxiety and loneliness) and learning outcomes on first-year international students. For this reason, the aim of this study on international students was to examine the impact of psychosocial factors on learning outcomes during the first year of international students after moving to China. With the two theories and the current literature, this study expects that lowering the effect of psychosocial factors (such as anxiety, depression and loneliness) will increase the international students' involvement and performance. To achieve the objectives of this study, we used cross-sectional study method and hierarchical multiple regression to investigate the effect of psychosocial factors on international students learning outcome and transition. The method used was statistically successful.

## **METHODS**

### **Participants**

In this cross-sectional study, participants were selected through convenience sampling method. The convenience sampling method was appropriate for this study because of how scattered the participants were considering the size of China as a country and the number of universities. The data were collected from 600 first-year international students studying in 83 Chinese Universities. Out of 492,185 international students in China, only 600 participated in the survey. Out of the 600 participants 393 (65.5%) participants were males and 207 (34.5%) were females. The participants age ranged from 21-40 years old with a mean 2.34 ( $SD = 1.171$ ). The degree level of the participants was 20.7% for doctoral students, 30.8% for master students, 38.5% for bachelor students and 10.0% for associate degree students. Again, the majority of the participants live in an on-campus apartment (N=417, 69.5%), those in private and at home residence were 21.0% and 9.5% respectively. Approximately 73.7 of the respondents' study in the English language with 26.3 studying in the Chinese language. Majority of the participants were from Asia and Africa and their length of stay in China ranges from just a semester to within a year. Approximately 41 percent reported a one year stay in their Universities (See Table 1)



Table 1 Demographics of Participants		<i>f</i>	%
Gender	Male	393	65.5
	Female	207	34.5
Age	Under 21	170	28.3
	21-25	190	31.7
	26-30	146	24.3
	31-36	63	10.5
	36-40	25	4.2
	40+	6	1.0
Nationality	Africa	219	36.5
	Asia	318	53.0
	Eastern Europe	55	9.2
	Americas	8	1.3
Degree	PhD	124	20.7
	Masters	185	30.8
	Bachelor	231	38.5
	Associate Degree	60	10.0
Length of stay	Just a semester	123	20.5
	Just one year	176	29.3
	Within a semester	56	9.3
	Within one year	245	40.8

### Procedure

International students from Chinese Universities within their first year of study volunteered to take part in an online survey. The data were collected within the first year of their stay in China, because by then those international students have had a certain amount of international experience. The survey was designed in esurveycreator.com and circulated through WeChat link. The survey was open for four months from December to March of 2018-2019 academic year. The sample covered both the Chinese Language program and regular (Undergraduate, Masters and PhD) international students.

Out of 900 students who received the survey, only 600 students completed the entire questionnaire. The completed questionnaires were quite small compared to the number of international students studying in China. Even though the number of completed questionnaires received were inadequate, it was sufficient for this study.

### MEASURES

The 12-items General Health Questionnaires (Lundin, Hallgren, Theobald, Hellgren, & Torgén, 2016) and the Higher Education Academy First-Year Experience (Yorke & Longden, 2008) were materials used to collect the data. A recent validity and reliability test on both Higher Education Academy First-year Experience and General Health Questionnaires in higher education (Yorke & Longden, 2008) and clinics (Kashyap & Singh, 2017; Lundin et al., 2016; Rajkumar et al., 2015) were statistically significant. The Cronbach Alpha for this study was 0.87 for all the constructs.

*Anxiety:* General Health Questionnaires (GHQ) (Lundin et al., 2016) was employed to evaluate anxiety level of international students in their first year of study. Three questions were adapted from the 12-items GHQ included (1) I always feel am under pressure, (2) I often lost a lot of sleep because of fear and (3) I am not encouraged as I should be for my studies. The respondents' anxiety levels were appraised using Likert scale. The Cronbach's alpha for the anxiety construct was 0.72.

*Depression:* Two questions from the survey were used to evaluate the depression among international students. The questions were adapted from the 12-items GHQ. The 5-point scale was used to rate the two questions included (1) I am sometimes unhappy and depressed and (2) At times I feel I cannot overcome my difficulties. The Cronbach's alpha for the depression construct was 0.72.

*Loneliness:* Three questions used in evaluating the participants' state of loneliness were from the Higher Education Academy First-Year Experience Survey. They were ranked on a 5-point scale with one indicating strongly disagree and five for strongly agree. The questions adapted from the survey were; (1) I have a habit of keeping myself out of the public (2) I do not feel I belong to any academic grouping within this institution and



(3) I am not personally interested in this university's extracurricular activities. The loneliness construct had a Cronbach's Alpha of 0.70

*Dependent variable:* One item from the questionnaire administered was used as our outcome variable. The participants were asked a question "Did your first-year experience affect your GPA?". We gave the participants the option to choose from Strongly Agree to Strongly Disagree. Their responses were tested against all the independent variables using hierarchical multiple regression.

### ANALYSIS

First, the demographics of participants were computed. Afterwards, we examined our model by conducting a hierarchical multiple regression among all the variables using the software SPSS v.22.0 (IBM Corporation, 2013). In conducting hierarchical multiple regression analysis for the dependent variable, we tested for the normality assumption in regression. The skewness and kurtosis in the residual were -0.21 and -1.09 respectively. The outcome of the test met the normality assumption for multivariate regression of -1.96 to 1.96 (Doane & Seward, 2011).

### RESULTS

The results of this study ensured the assumptions of linearity, normality, and homoscedasticity were strictly followed. Again, the correlations amongst the independent variables (anxiety, depression and loneliness) in this study were evaluated as presented in Table 2. The correlations were very weak to moderate, ranging from  $r = -.12, p < .037$  and  $r = .21, p < .000$ . This results show that multicollinearity was met. Most of the independent variables statistically correlated with each other which supported that the data was good fit to correlate with the dependent variable. Table 2 displays the unstandardized regression coefficients ( $B$ ), intercept, and standardized regression coefficients ( $\beta$ ) for each variable.

In the first step in this analysis, three questions under the anxiety predictor were entered: (1) I always feel am under pressure, (2) I often lose a lot of sleep because of fear and (3) I am not encouraged as I should be for my studies. This model was statistically significant  $F_{(12,170)} = 12.17, p < .000$  and explained 24 % of variance in the effects on learning outcome. All three anxiety questions contributed significantly to the model. After entry of depression questions at Step 2 the total variance explained by the model was 26.7% with  $F_{(9,129)} = 4.36, p < .000$ . The introduction of loneliness questions explained additional 6.2% of variance in the effect on learning outcomes, after controlling for all the independent variables ( $\Delta R^2 = .108; F_{(8,942)} = 8.086, p < .000$ ). Finally, in adjusted model, five out of eight questions under predictor variables were statistically significant, with one question under loneliness predictor recording Beta value ( $\beta = .21, p < .000$ ) than the rest of the predictors.

**Table 2 Hierarchical Multiple Regression Analyses Predicting Psychosocial influence on International Students in China**

<i>Model</i>	<i>R</i>	<i>R</i> <sup>2</sup>	$\Delta R^2$	$\Delta F$	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>Sig.</i>
Step 1	.24	.058	.058	12.17					
I always feel am under pressure					.20	.07	.15	3.01	.003
I often lose a lot of sleep because of fear					.23	.07	.15	3.05	.002
I am not encouraged as I should be for my studies					-.15	.06	-.11	-2.54	.011
Step 2	.27	.071	.014	4.36					
I always feel am under pressure					.26	.07	.19	3.62	.000
I often lose a lot of sleep because of fear					.31	.08	.21	3.90	.000
I am not encourage as i should be for my studies					-.09	.07	-.06	-1.33	.184
I am sometimes unhappy and depressed					-.15	.08	-.11	-2.04	.042
At times I felt I cannot overcome my difficulties					-.12	.08	-.08	-1.49	.137
Step 3	.33	.11	.04	8.09					
I always feel am under pressure					.26	.07	.19	3.675	.000



I often lose a lot of sleep because of fear	.22	.08	.15	2.628	.009
I am not encouraged as I should be for my studies	-.14	.06	-.10	-2.05	.041
I am sometimes unhappy and depressed	-.15	.07	-.11	-2.12	.034
At times I felt I cannot overcome my difficulties	-.17	.08	-.12	-2.09	.037
I have a habit of keeping myself out of the public	-.05	.07	.05	.93	.355
I do not feel I belong to any academic grouping within this institution	.27	.07	-.04	-.71	.478
I am not personally interested in this university's extracurricular activities	.06	.06	.21	4.50	.000

## DISCUSSION

Within the psychosocial theories as a framework (Astin, 1984; Gullahorn & Gullahorn, 1962), this present study investigated how psychosocial factors influence international students' learning outcomes. Anxiety, depression and loneliness were predictors identified in the literature as good candidates for influencing international students transition and learning outcomes. The general and individual effects on learning outcomes were analysed. Almost all the measures of psychosocial factors significantly correlated with the dependent variable of learning outcomes.

The findings from this study suggest that psychosocial factors are of genuine concern to international students. Anxiety, depression and loneliness consequently influence first-year international students learning in the university. The findings replicate results from past studies examining psychosocial factors with academic performance. For example Ahmed (2018) proved that International students perceived to have severe anxiety and depression demonstrated weak academic achievement. Anxiety explained one fourth of the total variance on learning outcomes. Again, the robust relationships among the variables suggests that the results were not simply the findings of a methodological relic. Further, the current findings show that a higher degree of psychosocial factors predicted declines in international students learning outcomes. The effects of international student's psychosocial status were obvious, going beyond poor transition to predict decrements in learning outcomes overtime.

Given the effect of psychosocial factors on learning outcomes, researchers should investigate how anxiety, depression and loneliness influences international students learning outcomes. Therefore, this study makes an important contribution through the model that was tested, which suggested ways first-year international students experiences can affect learning outcomes. The hierarchical multiple regression analysis indicated that psychosocial factors of first-year international students have an inverse relationship with learning outcomes. These findings highlighted the relationship among different factors that affect international students in their first year.

Our results underline the need to identify and provide support for international students who have social and emotional difficulties on the university campus. Our measures of psychosocial factors suggest that international student affairs department in Chinese universities have a role to play, as they appear to have background information on first-year international students. Raymond (2018) asserted that most international students are troubled and unhappy in the new environment and their future. Our results also suggest an immediate intervention may yield many benefits leading to an increased psychological and social well-being, improved learning and cultural adjustment.

This study contributes to existing literature on transition and adjustment among international students. Accordingly, this study is among the first ones to examine the effects of psychosocial factors on first-year international students learning outcomes in China. And this study may be a good candidate for the development of pro-international students' psychosocial programs to facilitate adjustment in China. Next, as this study is a psychosocial-oriented study, it highlighted some empirical suggestion that could back the planning of psychosocial- oriented programs. Lastly, this study reinforced the results of past studies, for instance, those of Sullivan & Kashubeck-West (2015); Szabo, Ward, & Jose (2016).

Although the findings of this study suggested that psychosocial factors have an influence on international students' transition, the results need to be accepted with care. The first limitation in this study relates to the



sample size, which was small compared to the total population of international students in China. Though the current findings were based on a relatively small sample, the findings need to be applied in a large international student body to understand the extent to which psychosocial factors may affect international students learning. Again, even though the anonymity of participants were assured in the collection of data, the self-report survey employ may relate to a bias response. The findings of this study suggest that future research may expand on the results and the theoretical concepts espoused in this study and relate it to the psychosocial disposition of Chinese students in hosting international students at their universities. Further, to replicate our results future research may not only use similar cross-section designs, but also longitudinal and diary studies.

## CONCLUSION

As predicted, minimizing psychosocial factors create sound emotional and social experiences for international students in the adjustment process. Additionally, we found that the psychosocial measures had significant influence on transition experience of first-year international students, which later predicted a decreased learning outcome. Our findings supported the theories used in this paper, particularly on international students' experience in the first year of their study. Finally, we admit that the objectives set for ourselves were met and we have statistically proved the psychosocial factors influence on learning outcomes among international students.

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