

Acculturation: Role of Student–University Alignment for International Student Psychological Adjustment

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Abstract

The interaction between host environment and international students plays a critical role in the students' cross-cultural adjustment. However, limited research has captured this interaction in investigating international student acculturation. Building on acculturation and person–environment fit theories, this article investigated student–university alignment of different dimensions as predictors of psychological adjustment of international students at universities in Victoria, Australia. The results of structural equation modeling suggested student–university goal alignment was positively associated with student psychological adjustment. A revealing finding of this article is the mediating role of complementary fit in the relationship between supplementary fit and student psychological adjustment, where the complementary fit was represented by the alignment between student needs and university academic and facilities support, and supplementary fit was represented by student–university goal alignment. The findings have implications for universities and practitioners in developing the necessary resources to support international students.

Keywords

international students, international student acculturation, person–environment fit, student adjustment, student satisfaction, student–university alignment

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Introduction

Acculturation is a reciprocal process where cultural and psychological changes occur in both the acculturating individuals and the host environment (Berry, 2005). In an international student context, the outcomes of the international student cross-cultural adjustment process are significantly influenced by the quality of the interaction between international students and the host environment (Ward & Geeraert, 2016). Successful acculturation occurs when acculturating individuals have found “a balance between their own lifestyle and that of the host environment and are happy to be in the host environment” (Selvarajah, 2000, p. 2113).

Previous research related to international student acculturation has predominantly focused on international students’ individual adjustment, with only a limited number of recent studies, such as Haugen and Kunst (2017) and Hendrickson (2018), having included host environment factors in discussing international student cross-cultural adjustment. However, these studies have either investigated changes in the host environment as a separate research problem or treated the host environment as an isolated influential factor without capturing the impact of student–university interaction in examining international student cross-cultural adjustment.

To address this gap, the current study integrates acculturation and person–environment (PE) fit theories as a framework to investigate the effects of the two-way interaction between international students and their host university on the student cross-cultural adjustment. Specifically, this study examines the direct effect of student–university goal fit on student psychological adjustment and the mediating effects of student needs–university resources fit in the relationship between student–university goal fit and student psychological adjustment.

The terms “fit” and “alignment” are often used interchangeably in PE fit research. Selvarajah (2000) describes alignment as the balance sought. The noun “fit” is “a tangible concept that can be calculated by the sum of its parts” and “the more precise the fit or closer match between the two sets of variables, the better outcomes” (Kristof-Brown & Billsberry, 2013, pp. 2–3). The “match” occurs “when person and environment are in perfect alignment” which means they are in “exact correspondence” (Kristof-Brown & Billsberry, 2013, p. 3). We referred to “fit” as a broad term mainly used to describe PE fit theory, and “alignment” was used for narrative discussion.

Literature Review and Hypotheses Development

Acculturation

Selvarajah (2000) describes acculturation as a four-stage cyclical process that a sojourner experiences. They are (a) pre-departure preparation entailing sojourner’s motivation, expectation, excitement, adventure, and uncertainties; (b) initial experience formed by the individual’s initial interaction with the host country; (c) gestation referred to as “culture shock” as a result of intensive experiences of the host country’s realities; and (d) adjustments determined by the degree of frustration or contentment as a sum of experiences of the preceding stages.

In today's fast changing environment, Ward and Geeraert (2016) argued that acculturation is an interactive process between an acculturating individual and a multi-layer environment including an institutional layer referred to as school environment. For example, in the school environment, perceived social support from teachers and friends advances more positive attitudes toward the host country and subsequently results in the individual's integration. Therefore, acculturation research should include the role of the host environment in studying the sojourner's process of acculturation.

The interaction between international students and their host institution during the acculturation process results in changes of both students as agents and schools as institutions (Bochner, 2006). The degree of alignment between the sojourner and the host environment determines the success of the sojourner's adjustment which includes psychological adjustment (Selvarajah, 2000; Ward & Geeraert, 2016). During the adjustment stage, acculturating individuals are often found to face a spectrum of choice between frustration and contentment (Selvarajah, 2000). When encountering an increase in frustration, acculturating individuals may be less co-operative, less productive, and withdraw whereas a contentment experience makes them become more committed, co-operative, productive, and participative (Selvarajah, 2000). Therefore, to capture the interaction between international students and their host university in the students' psychological adjustment, this study employs the PE fit theory.

PE Fit Theory

PE fit is defined by the degree of compatibility between the attributes of an individual and an environment (Cable & Edwards, 2004). The centrality of PE fit theory lies in the fact that a best fit between the individual and the environment will lead to "high performance, satisfaction, and little stress" whereas a poor fit results in "decreased performance, dissatisfaction, and stress in the system" (Pervin, 1968, p. 56). PE fit exists in two forms: (a) supplementary fit which occurs when there is an alignment between a person's characteristics (e.g., culture, values or goals) and that of an environment, and (b) complementary fit which occurs when a person or an environment provides what the other wants (Cable & Edwards, 2004) referred to by Kristof (1996) as PE needs–supplies fit. Although there is a variety of PE fit dimensions, this article focuses on student–university goal alignment as supplementary fit and the alignment of student needs and university resources as complementary fit.

Alignment of international student goals for study abroad and host university goals as supplementary fit. In organizational studies, person–organization goal alignment as a form of PE supplementary fit is based on the premise that people with similar goals are attracted to and recruited by organizations whose goals are similar or whose goals will enable the individuals to achieve their goals (Kristof, 1996). For international students, their primary goal for study abroad is to attain internationally recognized qualifications and to gain some knowledge of the host culture during their time living overseas (Bochner, 2006). This study proposed that student–university goal fit occurs

when international students find alignment between their goals for study abroad and the university's goals that enable them to attain their goals.

Alignments of international student needs and host university resources as complementary fit. In this study, the alignment between student needs and university resources was defined as the extent to which students' needs were met by university resources and was measured by the following three fit dimensions. They are the fit between students' needs and (a) university academic support, (b) university social support, and (c) university facilities support, hereafter called academic fit, social fit, and facilities fit, respectively.

Academic fit. International students often encounter extensive academic difficulties due to language issues and stress associated with their adjustment to a new education environment (Neumann et al., 2019). Therefore, universities hosting international students have increasingly recognized the difficulties and psychological stress these students experience and have made substantial changes to accommodate their needs. The observed changes made include creating a positive classroom learning environment, encouraging in-class group work and in-class discussion participation, and facilitating interactions between local and international students, which requires teachers to understand the students, and be aware of the students' needs and interest (Cruickshank et al., 2012). Such changes made are in support of institutional fit to improve international student adjustment on campus. This article assumes that academic fit occurs when international students' needs for academic support are met by their host university.

Social fit. Social support is defined as "an exchange of resources between at least two individuals perceived by the provider or the recipient to be intended to enhance the wellbeing of the recipient" (Shumaker & Brownell, 1984, p. 13). In an international student acculturation setting, social support comes from different sources including host universities as organizational support and friends and family members as interpersonal support (Yu et al., 2019). Numerous acculturation research have investigated the effect of social support from interpersonal perspective whereas the equally important source of university support has been under researched (Cho & Yu, 2015). These authors argued that social support provided by host universities is critical for international student psychological well-being as the students often encounter significant shortage of resources for their educational, cultural, and social adjustment. Therefore, this study focuses on organizational social support and assumes that social fit occurs when international students' needs for social support are satisfied by their host university social environment.

Facilities fit. Educational infrastructure including physical assets and facilities that enable the teaching and learning process of a university also significantly contributes to a university's reputation. For many education institutions, the provision of high-quality facilities is a critical factor that influences a student's choice of that institution

and determines student satisfaction of their university experience during their course of study (Arambewela et al., 2006). This study posits that facilities fit occurs when international students' needs for facilities support are met by their host university. Facilities such as library services, computing facilities, and recreational facilities are found to promote international student satisfaction (Arambewela et al., 2006).

Hypotheses Development

Direct relationship between international student–university goal alignment as supplementary fit and student psychological adjustment. Goal fit is reported to influence an individual's attitudes. For example, goal fit among teachers, and between teachers and principals is associated with teachers' attitudes and intention to quit schools (Vancouver & Schmitt, 1991). In acculturation context, sojourners' level of expectation and motivation during the pre-departure preparation stage greatly influences their cross-cultural adjustment (Selvarajah, 2000). That is, international students' goals for study abroad often determines the development of the students' cross-cultural skills and global understanding (Kitsantas, 2004), and therefore achievement of these goals are expected to affect the students' psychological adjustment. Thus, we hypothesize that

Hypothesis 1 (H1): International student–university goal fit is positively associated with student psychological adjustment.

Proposed mediating variables: Alignment between student needs and university resources as complementary fit. The key distinction between supplementary fit and complementary fit lies in the fact that supplementary fit conceptualizes the measurement dimension as “the importance of an attribute” whereas complementary fit represents need fulfillment conceptualized as “the desired amount of an attribute” (Cable & Edwards, 2004, p. 283). These authors argued what is important to the individuals will influence their desires. Therefore, we rationalize that international student—university goal fit as a supplementary fit conceptualizes goal as the importance of an attribute (e.g., how important is the attainment of an internationally recognized degree to the students). Similarly, need fulfillment as a complementary fit conceptualizes needs as the students' desired amount of resources supplied by university pertaining to their needs (e.g., desired modern and adequate computer facilities). The importance of goals for study abroad will determine the type of resources the student needs and their perceived university's corresponding resources to meet these needs.

From acculturation perspective, Selvarajah (2000) suggested that although the four stages of the acculturation process may overlap, the gestation phase is where the sojourner experiences the realities of the current environment and notices differences and similarities between current and their previous home features. Therefore, we assume that at this gestation stage, international students come to assess the level of alignment between their features and that of the environment. The importance of goals for study aboard formed during the students' pre-departure preparation is framed as an underlying mechanism that defines the students' perceived need fulfillment when they

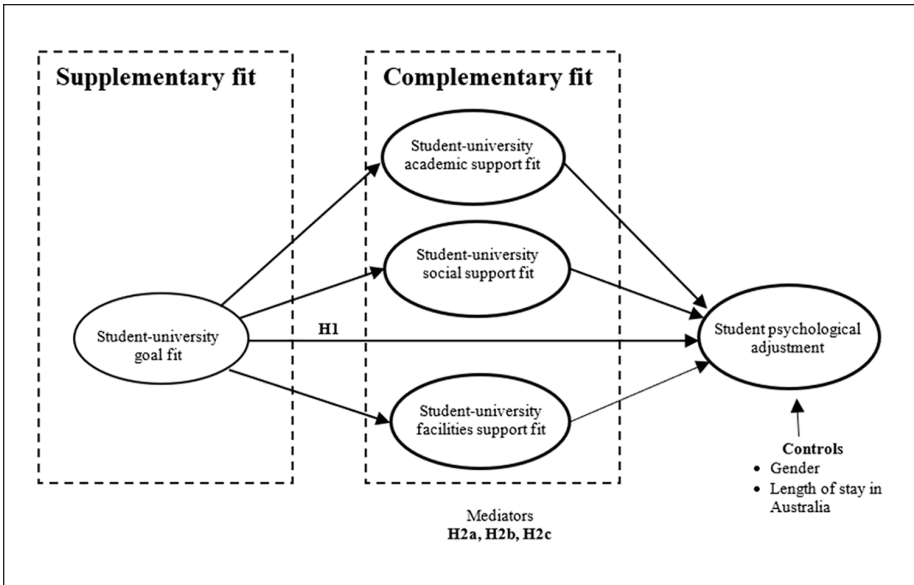


Figure 1. The proposed conceptual framework.

are actually in the host country which then determines the students' psychological adjustment. Thus, we hypothesize that

Hypothesis 2 (H2): The relationship between international student–university goal fit and student psychological adjustment is mediated by academic fit (H2a), social fit (H2b), and facilities fit (H2c).

Proposed control variables: Students' gender and students' length of stay in Australia. Gender and duration of stay in a host country are reported to influence international students' cross-cultural adjustment (Chirkov et al., 2008). Therefore, these two variables were included in this study's model as control variables, to account for the influence the two variables could have on the hypothesized relationships.

Model Testing

The model demonstrating the proposed hypotheses is depicted in Figure 1.

Research Method

The present study employed structural equation modeling (SEM) using IBM SPSS AMOS 25 as the main analytical technique. SEM enables researchers to test relationships among multiple latent variables including mediating effects.

Measurement

The measurement scales were adapted from previous studies using a 7-point Likert-type scale. The student–university fit items were measured using a commensurate measurement describing both student and university in the same content dimensions. Commensurate measurement scales enable researchers to directly capture the discrepancies between the objective measure of a person’s features (P) and that of the environment (E) (Caplan, 1987). Student–university fit was determined by calculating the absolute value of the difference between students’ responses of their characteristics (P) and their perceived university’s characteristics (E) on each of the measurement items. Higher difference scores for the absolute value represent greater misalignment referred to as “poor fit” and lower difference scores represent greater alignment referred to as “good fit.” The fit indices were subsequently reverse-scored so that greater and smaller values of difference represent better fit and poorer fit, respectively.

Instrument Design

Student–university goal fit. The measurement items for goal for study abroad were adapted from the subscales of Study Abroad Goal Scale (Kitsantas, 2004) and Self-Regulation Questionnaire–Study Abroad (Chirkov et al., 2007). The scales consisted of one subscale of three items measuring cross-cultural understanding goal and one subscale of three items measuring educational goal. The items were selected to suit international student context and had high factor loading values. For each item, students were asked to rate the extent to which each item is important for them (1 = *not important at all* to 7 = *very important*), and the extent to which they thought their university’s goals enable them to achieve their goals (1 = *strongly disagree* to 7 = *strongly agree*). The wordings were slightly revised to fit in the present study’s context.

Student psychological adjustment. Student psychological adjustment was measured by a subscale of nine items of the Student Adjustment to College Questionnaire (Baker & Siryk, 1999). The 9-point Likert-type subscale, to be consistent with other scales in this study was adjusted to a 7-point Likert-type scale, indicates the level of student psychological distress while adapting to the host university environment.

Student needs–university resources fit. To measure student–university academic fit, a subscale of six items was adapted from Hampton (1993). To measure student–university social fit, a subscale with four items was adapted from Gilbreath et al. (2011). To measure student–university facilities fit, a subscale with four items was adopted from Arambewela et al. (2006). We asked students to rate the extent to which each item is (a) the attribute of their university and (b) their desired attribute of an ideal university (1 = *strongly disagree* to 7 = *strongly agree*).

Instrument Pre-Testing

Authoritative feedback on the survey instruments was conducted by two academic experts and modifications were made including rewording some questions and

removing one item from the academic fit scale which is “The way teachers talk to you when you ask for help” due to its ambiguity. Subsequently, seven international students were invited to fill out the survey online and provide feedback interview. The survey link was then posted on the Facebook pages of international student associations in Victoria. The data of 61 responses were collected for the pilot study, and the pre-testing was performed. The final questionnaire of 28 items produced Cronbach’s alphas of .88 (goal fit), .89 (academic fit), .88 (social fit), .85 (facilities fit), and .91 (psychological adjustment), confirming the questions had a good scale reliability for full scale survey.

Participants

This study’s research population was international undergraduate students enrolled in universities in Victoria. The student respondents were recruited via social media channels including Facebook pages of international student associations in Victoria, and paper questionnaire distributed at several international student welcome-back and cultural events.

Prior to analysis, data were screened to detect missing values and outliers, resulting in the deletion of 18 cases from the total usable responses of 384. The final dataset consisted of 366 responses. Then, the data were tested to detect violation of normality assumption. The result of normality test indicated negatively skewed data. Therefore, bootstrapping as “a computationally intensive method that involves repeatedly sampling from the data set” was used for data analysis to overcome this issue (Preacher & Hayes, 2008, p. 880).

Preliminary data analysis reported the 366 participating students were studying at seven universities in Victoria with the participation rate by university ranging from 8.1% to 17.5%. The participating students came from 27 different countries with more than 70% of them being from Asia. This result reflects the broader context of Australia as the second-most popular choice for Asian undergraduate international students (ICEF Monitor, 2018). In terms of gender, 51.6% of the participating students were female, and 48.4% were male. Regarding the students’ length of time in Australia, 30.3% of participating students have been studying in Australia less than 1 year, 26.2% from 1 year to less than 2 years, 17.2% from 2 years to less than 3 years, 11.2% from 3 years to less than 4 years, and 15.0% more than 4 years.

Measurement Model Result

Before the model analysis was conducted, all nine negatively worded items of the psychological adjustment construct were reversely scored so that high scores reflected less psychological adjustment issues and vice-versa. Subsequently, a confirmatory factor analysis (CFA) was conducted to confirm the relationships between the five latent variables of the model in Figure 1 (goal fit, academic fit, social fit, facilities fit, and psychological adjustment) and the corresponding observed variables. The CFA was performed with 2,000 bootstrap data samples at a confidence

interval of 95%. In this five-factor model, goal fit was measured by two first-order factors following the two subscales: Educational Goal and Cross-Cultural Understanding Goal specified in the “Instrument Design” section. The result of the analysis exhibited poor model fit, $\chi^2(338) = 849.563$, chi-square statistics/df (CMIN/DF) = 2.514, goodness of fit index (GFI) = 0.836, Tucker–Lewis Index (TLI) = 0.863, and comparative fit index (CFI) = 0.877. Among the nine observed variables loaded onto the psychological adjustment construct, four had low factor loadings ranging between 0.44 and 0.52 and five had high factor loadings between 0.67 and 0.76. Therefore, an exploratory factor analysis (EFA) was performed on this psychological adjustment construct.

The result of the EFA confirmed the nine variables loaded onto two high-correlated factors. Factor 1 consisted of five observed variables with factor loadings ranging between .571 and .819. Factor 2 consisted of four observed variables with factor loadings ranging between .685 and .751 (see Table 1). This result of the two-factor psychological adjustment construct was not aligned with the original scale of one-factor construct by Baker and Siryk (1999). This could possibly be due to the differences in characteristics of the research population, such that the original scale was tested on university students in general whereas our research population was international students from seven universities in one state of Australia. Existing literature on international student acculturation has found that local students and international students often have different psychological adjustment patterns because international students’ overseas study journeys are associated with cross-cultural adjustment issues that local students do not experience (Cho & Yu, 2015). For example, international students are often found to suffer from mental health problems as a result of challenges associated with their sojourn including their adjustment to new academic practices, management of their daily life in a different cultural environment, and the extent to which they recognize and seek help for their mental health problems (Forbes-Mewett & Sawyer, 2016).

This EFA result can be explained by acculturation theory that suggests that the psychological adjustment of sojourners often involves (a) stress associated with an individual’s response to the new environment and (b) coping as an effort of the individual to control the stress triggers to recover to normal psychological functioning (Berry, 1997; Szabo et al., 2015). Therefore, the two factors identified in the EFA were accordingly described and named in Table 1:

Factor 1: *Stress* consisted of five items reflecting students’ stress associated with their cross-cultural transition.

Factor 2: *Coping* consisted of four items reflecting students’ effort to overcome stress.

Subsequently, an analysis of a five-factor measurement model with psychological adjustment as a second-order factor was conducted and demonstrated adequate fit, $\chi^2(337) = 558.066$, CMIN/DF = 1.656, GFI = 0.903, TLI = 0.940, CFI = 0.947.

Table 2 shows the descriptive statistics of all factors. Cronbach’s alphas for all constructs were .79 to .85, which was above the critical value of .70, confirming international consistency of the observed variables representing each construct.

Table 1. EFA Factor Loadings (Standardized Estimates) for Psychological Adjustment.

| Item | Variables | Factor 1 Stress | Factor 2 Coping |
|---------------------------------------|--|--------------------|--------------------|
| PsyAdj2 | I feel downhearted | .819 | |
| PsyAdj8 | I worry a lot about university expenses | .819 | |
| PsyAdj6 | I get angry too easily lately | .714 | |
| PsyAdj7 | Sometimes thinking gets muddled too easily | .663 | |
| PsyAdj1 | I feel tense or nervous | .571 | |
| PsyAdj3 | Being independent has not been easy | | .751 |
| PsyAdj4 | I am not able to control emotions well lately | | .729 |
| PsyAdj9 | I have trouble coping with university stress | | .719 |
| PsyAdj5 | I have thought about seeking psychological help recently | | .685 |
| Percentage of variance (%) | | 41.1 | 12.7 |
| Cumulative percentage of variance (%) | | 41.1 | 53.8 |

Note. EFA = exploratory factor analysis; PsyAdj# = Psychological Adjustment Variable #.

Table 2. Descriptive Statistics Results ($N = 366$).

| Variables | No of items | Cronbach's α | M | SD |
|-----------------------------|-------------|---------------------|------|------|
| 1. Goal fit | 6 | .82 | 5.77 | 0.86 |
| a. Goal fit (education) | 3 | .79 | 5.87 | 0.93 |
| b. Goal fit (culture) | 3 | .82 | 5.66 | 1.03 |
| 2. Academic fit | 5 | .83 | 5.80 | 0.90 |
| 3. Social fit | 4 | .80 | 5.92 | 0.82 |
| 4. Facilities fit | 4 | .81 | 5.84 | 0.91 |
| 5. Psychological adjustment | 9 | .85 | 5.26 | 0.80 |
| a. Stress | 5 | .85 | 5.56 | 0.86 |
| b. Coping | 4 | .81 | 4.88 | 1.05 |

Table 3 presents the results of bivariate correlations among the variables. The bivariate correlations of the variables were significant at the .01 level with absolute values of r being .22 to .40, confirming linear assumption among latent variables with strong correlations.

As shown in Table 4, to test for convergent validity, the average variance extracted (AVE) was calculated. For all five factors, the AVEs were above the cutoff value of 0.50. To test for discriminant validity, the square roots of the AVE values were compared with all inter-factor correlations. The results show the square roots of the AVE values were greater than the correlations, confirming the discriminant validity of all factors. The composite reliability (CR) was also calculated for each factor. All the CR values were higher than the cutoff value of .70 confirming the adequate reliability in all factors (Fornell & Larcker, 1981).

Table 3. Bivariate Correlation Results.

| Variables | 1 | 2 | 3 | 4 | 5 |
|-----------------------------|--------------|--------------|--------------|--------------|---|
| 1. Goal fit | 1 | | | | |
| 2. Academic fit | .38** | 1 | | | |
| 3. Social fit | .39** | .32** | 1 | | |
| 4. Facilities fit | .40** | .29** | .33** | 1 | |
| 5. Psychological adjustment | .37** | .33** | .22** | .37** | 1 |

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4. Construct Validity and Reliability Test Results.

| Variables | CR | AVE | Facilities fit | Academic fit | Goal fit | Psychological adjustment | Social fit |
|--------------------------|-----|------|----------------|--------------|------------|--------------------------|------------|
| Facilities fit | .81 | 0.52 | .72 | | | | |
| Academic fit | .83 | 0.50 | .34 | .71 | | | |
| Goal Fit | .81 | 0.69 | .50 | .51 | .83 | | |
| Psychological Adjustment | .76 | 0.62 | .51 | .47 | .62 | .79 | |
| Social fit | .80 | 0.50 | .41 | .36 | .53 | .33 | .71 |

Note. CR = composite reliability; AVE = average variance extracted. Figures in bold in the diagonal are the square roots of the AVE values.

Structural Model and Hypothesis Testing

SEM with maximum likelihood was employed to test the hypotheses presented in Figure 1. The analysis results showed the study model achieved an acceptable model fit with the fit indices satisfying the cutoff values suggested by Hu and Bentler (1999): $\chi^2(392) = 604.139$, CMIN/DF = 1.541, GFI = .902, adjusted goodness of fit index (AGFI) = 0.884, TLI = 0.943, CFI = 0.949, root mean square error of approximation (RMSEA) = 0.039, and standardized root mean residual (SRMR) = 0.054.

Table 5 presents the results of regression analysis of the direct paths presented in Figure 1. All the proposed direct paths among the variables were confirmed except the path between social fit and student psychological adjustment.

Testing Mediating Effect Using Bootstrapping

The path analysis from student–university goal fit to student psychological adjustment was positively significant ($p < .001$, $\beta = .478$), confirming H1. H2b was rejected as social fit did not meet the mediating test conditions. The result of bootstrapping shows the indirect effect between goal fit and student psychological adjustment via academic fit and facilities fit was statistically significant ($p = .008$, $\beta = .210$), the direct effect was also significant ($p = .001$, $\beta = .629$). Therefore, academic fit and facilities fit partially mediated the relationship between goal fit and psychological adjustment,

Table 5. Results for Path Analysis.

| Dependent | | Independent | Std. Coefficient |
|--------------------------|---|----------------|------------------|
| Psychological adjustment | ← | Goal fit | 0.492*** |
| Academic fit | ← | Goal fit | 0.545*** |
| Social fit | ← | Goal fit | 0.578*** |
| Facilities fit | ← | Goal fit | 0.555*** |
| Psychological adjustment | ← | Academic fit | 0.152* |
| Psychological adjustment | ← | Facilities fit | 0.217** |
| Psychological adjustment | ← | Social fit | -.093, ns |

Note. ns = not significant.

* $p < .05$. ** $p < .01$. *** $p < .001$.

confirming H2a and H2c. In addition, the model's explanatory power was assessed by the R^2 value. Based on the results obtained, student–university goal fit explained 29%, 32%, and 31% of the variance in student–university academic fit, social fit, and facilities fit, respectively. Furthermore, 48% of the variance in student psychological adjustment was explained by goal fit, academic fit, and facilities fit.

The control variables Gender ($p = .90$) and Length of stay in Australia ($p = .10$) had no significant relationships with psychological adjustment.

Figure 2 depicts the test results of the final structural model.

Discussion and Conclusion

Student–University Goal Fit and Student Psychological Adjustment

The current study reported a positive association between student–university goal alignment and student psychological adjustment and is consistent with previous studies where a positive relationship between the alignment of sojourn goals and sojourn experiences and international student adaptation was confirmed (Zimmermann et al., 2016). This study also supports results of studies where a negative relationship between international student motivation for studying abroad and culture shock was established (Yang et al., 2018). The authors contend that students who consider their goals for study abroad to be of significant importance will strive to achieve these goals during their course of study. As such, if students perceive that the university's goals support them to achieve their own set goals, this is expected to reduce stress and assist these students to better psychologically adjust to their university environment.

Student–University Goal Fit and Student Needs–University Resources Fit

As expected, the degree of goal alignment between international students and their university (supplementary fit) positively predicted the degree of alignment between student needs and university provided resources, such as academic support, social support, and facilities support (complementary fit). When students find a match

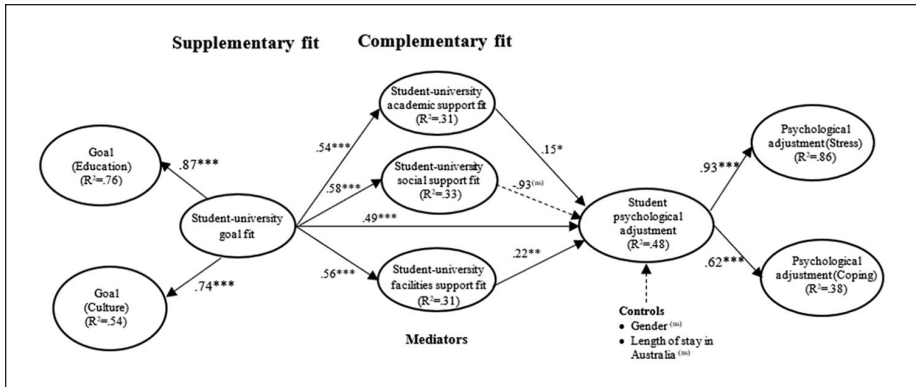


Figure 2. Structural model with estimated standardized coefficients and R² values shown. Note. ns = not significant. *p < .05. **p < .01. ***p < .001.

between their goals for study abroad and their university’s goals, they are likely to be co-operative, actively seeking help to overcome difficulties and utilizing the provided resources, therefore finding that their need for resources is met by their university. This finding lends support to the argument that when international students achieve their academic goals, they become more confident and open-minded, actively participating in extracurricular activities as well as making friends with local students (Heng, 2018). This positive causal relationship between supplementary fit and complementary fit is also consistent with other PE fit studies (e.g., Cable & Edwards, 2004).

Student Needs–University Resources Fit and Student Psychological Adjustment

This study also revealed that the degree of alignment between international students’ needs and host university academic support and facilities support was positively associated with student psychological adjustment. This finding supports the positive relationship between this need–resource alignment and an individual’s behavioral outcomes, such as task performance, found in previous studies (e.g., Travaglianti et al., 2017). During their educational sojourn, international students often suffer from academic stress mainly caused by assignment delays, competition, workload, and assignment deadlines. Appropriate academic and facilities support provided by the host university will assist international students to overcome these challenges and better adjust to the new educational environment.

Contrary to our prediction and to most findings from past studies, the alignment between international students’ needs and university social support did not have any impact on student psychological adjustment. Some care is needed when interpreting this finding because social support can come from different sources and is comprised

of various types of support. Bender et al. (2019) claimed that subjective social support (perceived social support) relates strongly to psychological adjustment while objective social support (self-reports of the actual received social support) has a minor impact on psychological adjustment. In this study, social fit was commensurately measured as objective fit which is free from human bias (Caplan, 1987). This objective measurement can perhaps explain the insignificant relationship found in this study. In addition, university social support does not always meet international student expectations, resulting in the students turning to alternative support sources such as churches (Yu & Moskal, 2019) or friends who can provide these students with direct emotional support (Wilcox et al., 2005). This may make student–university social fit less sensitive to student psychological adjustment.

Mediating Effects of Student Needs–University Resources Fit

Consistent with our expectation, the degree of alignment between international students' needs and university academic and facilities support, as complementary fit, mediated the effect of student–university goal fit, as supplementary fit, on student psychological adjustment. That is, international students feel need fulfillment when they find their university enables them to achieve their goals of study abroad, actively participate in in-class activities as well as utilize university facilities. In turn, the alignment of students' needs and university resources enables the students to psychologically adjust to their university environment. Thus, student–university fit of academic and facilities support acts as a catalyst in the relationship between student–university goal fit and student psychological adjustment. Within the extant PE fit literature, research on the mediating role of complementary fit in the relationship between supplementary fit and individual outcomes is limited and fragmented (Cable & Edwards, 2004). The present study's finding therefore contributes to enriching current PE fit literature.

Theoretical Contribution

The present study extends the body of literature in international student acculturation, together with the broader field of organizational psychology. The integration of acculturation and PE fit theories provides an interdisciplinary framework that advances insight into a better understanding of international student cross-cultural adjustment. This framework allows researchers to capture the interaction between international students and their host university, measured by various student–university fit dimensions, and to examine its effect on international student psychological adjustment. The findings support the role of the alignment between international students' goals of study abroad and their university's goals in facilitating the students' psychological adjustment, both directly and indirectly, through the degree of alignment between the students' needs and university academic and facilities support. This highlights the importance of student–university alignment in support of a smooth cross-cultural adjustment among international students.

In addition, although there are theoretical linkages between supplementary fit and complementary fit, the two traditions of the PE fit theory have often been studied separately (Cable & Edwards, 2004; Zimmermann et al., 2016). The current study incorporated both traditions in the conceptual framework to explore the relationship between these traditions as well as its effect on student psychological adjustment. Specifically, this study reported a positive relationship between student–university goal alignment as a supplementary fit and the alignment of student needs and university academic and facilities support as complementary fit. It also uncovered the underlying role of complementary fit as a mediator in the relationship between supplementary fit and international student psychological adjustment, providing empirical evidence for the association between the two traditions and its effect on an individual’s outcomes, thereby enriching the extant literature in the PE fit research area. Future studies are needed to investigate whether these relationships are replicable in other contexts, such as specific work settings and in other countries.

Practical Implications

The present findings suggest that the alignment between international students and host university is a determinant of students’ psychological adjustment. Given the significant role of student–university goal alignment in international student psychological adjustment, host universities need to understand the student’s goals for study abroad and constantly articulate the university goals as a platform in supporting students. This can be done from the start when marketing and recruitment teams interact with international students and again all the way through the students’ study journeys.

In addition, it is important to recognize the importance of sufficient and appropriate academic and facilities support to assist international students when they arrive and through various acculturative stages. For example, one of the academic challenges for international students is in-class participation and integration. International students are reported to have difficulties in understanding lectures, participating in class activities with low ability to ask questions in class (Hayes, 2019). Academic staff should be aware of these difficulties and have appropriate approaches to encourage the integration of their international students. Similarly, university facility supports, such as libraries and computer laboratories, that satisfy the needs of international students often contribute to a smooth student psychological adjustment. These complementary fit components also act as a catalyst that translates student–university goal alignment effect into international student psychological adjustment.

Limitations

The primary limitation of the study is its cross-sectional research design. Data collected at one point of time may not reflect outcomes with student psychological adjustment as experienced over time. Longitudinal studies are required to

overcome this limitation. In addition, although the measurement scales used in this study serve the purpose of measuring social support, they can possibly be improved in terms of their structure and the wording of items. This study is only concerned with social support provided by universities and there are other sources of social support which may be important. It would be beneficial for future studies to replicate this study capturing additional social support sources using appropriate measurement items.

Finally, as this study's participants came from 27 countries, it is statistically impossible to control for country of origin. However, past research often reported the effect of cultural distance in international student acculturation rather than the students' nationality. It is argued that students from the countries that are culturally similar to the host country are likely to suffer less stress in their adjustment compared with those from the culturally distant countries. For example, Western international students were found to experience less stress than non-Western peers in Canada (Chirkov et al., 2008). In the case of this study, more than 70% of the student participants were from Asia suggesting significant cultural distance from the host country in most cases.

Appendix

Survey Items.

| Factor name | Items |
|--|--|
| Goal fit (Kitsantas, 2004) (Chirkov, Vansteenkiste, Tao & Lynch, 2007) | Interact with local people Learn about Australian's customs, traditions, and culture Enhance my understanding of Australia Improve English and communication skills Gain an internationally recognized degree Improve career prospects |
| Academic fit (Hampton, 1993) | The personal attention students get from teachers Teachers' concern for students' needs and interest The willingness of teachers to talk with students outside of class time Opportunity to participate in class discussion Opportunities to know my professors |
| Social fit (Gilbreath, Kim & Nichols, 2011) | Sports and recreational opportunities Diverse student body made up of many nationalities Great support services (e.g., academic counseling, health care, and placement center) Other social activities as part of student support |
| Facilities fit (Arambewela, Hall & Zuhair, 2006) | Modern and adequate library facilities Good operating hours for library access Modern and adequate computer facilities Good access to computer lab |
| Psychological adjustment (Baker & Siryk, 1999) | Refer to Table I |

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