A Model of the Factors Affecting International Postgraduate Students’ Pursuit of Degrees: A Case Study

D. W. Govender, S. K. Basak *

ABSTRACT
The aim of this paper is to present a model of the factors affecting international students’ pursuit of their academic degrees in tertiary institutions. This was achieved by identifying factors that commonly affect international postgraduate students. A questionnaire was designed based on a case study with a sample of 24 post-graduate international students from one university in KwaZulu-Natal. Questionnaires were analysed using SPSS (version 21.0) and WarpPLS (4.0). WarpPLS (4.0) was used to draw up a statistically based model regarding the factors affecting international students in pursuit of their academic degrees. Results from the model show that financial stress, accommodation challenges, cultural shock, loneliness/homesick, communication skills and evaluation of their (previous) university experience influence students in their pursuit of their academic degrees in higher education. These findings could be used by students themselves to make them aware of possible challenges that lie ahead as well as by staff in international student offices at higher education institutions.

Keywords: International Students, University, Factors, Pursuit of Degrees.

Introduction
Postgraduate education for international students is well-established in many universities in this competitive world and nowadays many universities promote themselves as welcoming international students through their internationalization programmes (Cadman, 2000). Chan and Drover (1997), Gopinathan (1997) and MOE Homepage (2001) indicated that universities are increasingly required to educate a new generation in the competitive world to make the connection between global and local demands while at the same time maintaining their cultural identities. International postgraduate students are now an integral part of most university classes (Ballard & Clanchy, 1991; Jones et al., 1999; Ramburuth, 2001; Reid, 2002). According to Furnham (1997), Furnham and Bochner (1986) and Tomich et al. (2000), the experience of studying overseas remains with international students for a long period of time. In most cases this experience results in a positive outcome and often the individual decides to settle permanently in the new country. On the other hand, some experiences leave students with associations of loneliness, disorientation, and ‘culture shock’. According to Davis (1999) international students make significant contributions to their respective institutions’ diversity, revenue, investment, research and teaching. However, Davis’s research also indicated that existing campus services are usually designed for local students and may not appropriately serve the specific needs of international students.

According to Arambewela and Hall (2008), international education is a challenge faced by most universities as a result of the increasing mobility of students globally and these challenges are seen as threats as well as opportunities for higher education systems around the world. Drucker (1997) predicted the demise of ‘traditional’ universities with the growth of open and online universities and international education systems which have widened the scope of education with increasing student mobility, academic mobility, program mobility and institution mobility (Naidoo 2006 as cited in Arambewela and Hall, 2008). Lebicir et al. (2008) indicated that international students contribute significantly to the financial resources of any university through full payment of their education costs. Their research also indicated that it is vital and crucial for universities to offer the best possible educational experiences for those international students to ensure that universities do not lose their
competitive advantage to other institutions throughout the world (Lebcir et al., 2008).

Problem Statement
Rajapaksa and Dundes (2003) indicated that international students feel lonely and homesick and usually they have greater adjustment challenges and less social support compared to their local counterparts. Evans (2001) studied Polynesian students from a particular freshman cohort at one institution and found five factors that they experienced as challenges: a cultural background that did not prepare them for the freedom they experienced at the university; an emphasis on relationships with friends rather than academic studies; family cries at home; lack of focus due to unfamiliarity with higher education; college as a reason to leave home rather than to obtain a degree or misunderstandings about general education requirements.

Ramsay et al. (1999) pointed out that first-year international students had difficulties in Australian universities during lectures in terms of vocabulary and speed, and with tutors who spoke too fast or gave too little input. A study by Hechanova-Alampay et al. (2002) indicated that international students usually experienced less support than domestic students, most likely because their family and their friends were at a greater distance away. Several studies indicated that international students encounter numerous acculturative challenges that can affect their psychological well-being while living in a foreign country (Leong and Chou, 2002). Lee et al. (2004) found that social support not only has an impact on life stresses, but also acts as a buffer (moderator) against the impact of acculturative stress and psychological symptoms amongst international students.

Research Question
What factors affect international postgraduate students’ pursuit of their academic degrees in higher education?

Aim and Objectives
The aim of this study is to evaluate the impact of factors that affect international postgraduate students’ pursuit of their academic degrees. This aim is achieved through the following specific objectives:

To identify the factors influencing international students in pursuit of their academic degrees;

To analyse the impact of factors on international students’ pursuit of academic degrees in higher education;

To test the relationship of these factors faced by international students in pursuit of their academic degrees;

To design a model which can represent the factors affecting international students’ pursuit of academic degrees in higher education;

To examine the activities and strategies that universities should take in order to improve the levels of satisfaction among postgraduate international students in pursuit of their academic degrees.

Theoretical Framework
This research is grounded within the theoretical framework proposed by Perrucci and Hu (1995) on international postgraduate students’ satisfaction in terms of pursuing academic degrees. This satisfaction framework has four dimensions or characteristics: Social status (Gender, Marital status); Individual Resources (Language Skills, Financial Situation, Grades, Self-esteem, Aspirations); Social Resources (Exposure to U. S. Culture, Contact with U. S. Students, and Help from Co-nationals); Social Context (U. S. Attitude Toward Student’s Country, Discrimination).

Literature Review
The aim of this section is to present existing literature on the factors affecting international postgraduate students while pursuing their academic degrees.

Financial Stress:
According to the Institute of International Education (2006), financial stress is one of the biggest challenges among international students since the majority of the international students pay for their education with personal and family funds. Eustace (2007) stated that increases in tuition fees, lack of scholarships, unanticipated inflation and employment restrictions are some issues that are potential stressors and that can contribute to students’ levels of acculturative stress.

Language Challenges:
A study was conducted in the United States of America by Yeh and Inose (2003) and their findings showed that higher frequency of English use, fluency level and degree to which students felt comfortable speaking English predicted lower levels of distress. A study by Handa (2004) indicated that international students felt that they were not free to participate with local counterparts due to lack of language competency and self-confidence in English. However, the author also indicated that some of the
Isolation:
A study conducted by Bradley (2000) in the United Kingdom (U. K) indicated that although students from the U. K. were outwardly friendly but international students still felt lonely, marginalized and isolated. Rajapaksa and Dundes (2002:19) conducted a survey of 187 international students in the United States of America and found that students experiencing loneliness and homesickness.

Homesickness, Perceived Hatred, Guilt and Fear:
A study conducted by Sandhu and Asrabadi (1994) indicated that feelings of hatred, fear and guilty consciousness caused stress. Hate can result when a student feels that he/she has been rejected by the people of the host nation, and they can experience fear of the unknown because of insecurities and worries.

Culture:
A study by Trice (2007) indicated that cultural differences and differences in expectations between individualistic and communally orientated cultures pose challenges for international students in managing their social lives on campus. In higher education, cultural factors have great impact on international students, from their initial arrival on campus to their decision on whether or not to persist in their studies (Lee and Rice, 2007).

Racial Intolerance:
Mullins et al. (1995) reported on a study conducted by Burke (1986) in Australian tertiary institutions and found that racial intolerance was one of the three greatest difficulties experienced by international students. The study conducted by Mullins et al. (1995) also found racism to be a problem, as raised by respondents in the open comments on the questionnaire used.

Students’ Academic Progress:
Elkerton (1985) found that foreign students usually need more intensive supervision as compared to domestic students. A study conducted by Felix and Lawson (1994) indicated that international students seem to experience stress and problems not only in their tutorials, lectures and seminars, but also with laboratory work and essay writing.

Research Design
The objectives of this research study were achieved through the analysis of data from a questionnaire based survey using a sample of 24 postgraduate international students from a public university in the KwaZulu-Natal (KZN) province of South Africa. The distribution of the questionnaire and its administration was accomplished through face to face meetings with international postgraduate students.

Research Variables
The research variables of this study were: respondents’ background data, financial stress, accommodation challenges, culture shock, loneliness/homesick, communication skills, and their overall evaluation of their previous university experience. The questions based on these variables were in the form of Likert scale items.

Data Analysis
The completion of the questionnaire by the respondents yielded research data that was analyzed using the Warp PLS 4.0 software and SPSS 21.0 software. Data was first analyzed for reliability and validity, and then a number of statistical tests were performed using both statistical software packages.

Results
Demographics
Table 1 presents the demographic profile of the postgraduate international students surveyed in this study. Interesting results from these demographic statistics are: a fair majority (37.5%) of respondents are between 29-35 years old; the majority (58.3%) of respondents are from Africa but outside SADC; the majority (54.2%) of respondents reside off campus; the majority (79.2%) of respondents are holding a study permit. Other interesting results from Table 1 are that more than half (54.2%) of the respondents had been residing in South Africa for two years or less. Table 1 also indicates that the majority (95.8%) of international students’ race is African.

Reliability and Validity
According to Pahnila and Warsta (2010), reliability must exceed 0.70 for each factor. Similarly, a study by Bhattacherjee and Sanford (2009) indicated that reliability should exceed 0.70. As can be seen from Table 2, all the variables passed the reliability and Cronbach’s Alpha Coefficients tests apart from the newly constructed variable, namely, Evaluation of their Actual (Previous) University Experience which had a Cronbach’s Alpha
Coefficient of less than 0.70. On the other hand, cultural shock had the highest Cronbach’s Alpha Coefficient.

Table 1: Demographics

<table>
<thead>
<tr>
<th>Age</th>
<th>24-28 yrs (33.3%)</th>
<th>29-35 yrs (37.5%)</th>
<th>36-42 yrs (12.5%)</th>
<th>43-50 yrs (16.7%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female (16.7%)</td>
<td>Male (83.3%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity/race</td>
<td>African (95.8%)</td>
<td>European (12.5%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How long have you been in SA?</td>
<td>0-2 yrs (54.2%)</td>
<td>3-5 yrs (20.8%)</td>
<td>6-8 yrs (16.7%)</td>
<td>9-11 yrs (4.2%)</td>
</tr>
<tr>
<td>Faculty under which registered</td>
<td>Accounting &amp; Informatics (45.8%)</td>
<td>Engineering &amp; the Built Environment (8.3%)</td>
<td>Health Sciences (16.7%)</td>
<td>Management Sciences (29.2%)</td>
</tr>
<tr>
<td>Level of study</td>
<td>Masters (62.5%)</td>
<td>Doctorate (33.3%)</td>
<td>Post Doctorate (4.2%)</td>
<td></td>
</tr>
<tr>
<td>Country of origin</td>
<td>SADC (33.3%)</td>
<td>Outside SADC but Africa (58.3%)</td>
<td>Europe (4.2%)</td>
<td>Other (4.2%)</td>
</tr>
<tr>
<td>Marital status</td>
<td>Married (20.8%)</td>
<td>Divorced (4.2%)</td>
<td>Separated (4.2%)</td>
<td>Single (70.8%)</td>
</tr>
<tr>
<td>Currently residing</td>
<td>On campus (45.8%)</td>
<td>Off campus (54.2%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permit types</td>
<td>Study permit (79.2%)</td>
<td>Work permit (12.5%)</td>
<td>Other (8.3%)</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Composite Reliability Coefficients and Cronbach’s Alpha Coefficients

<table>
<thead>
<tr>
<th>Variables name</th>
<th>Composite Reliability Coefficients</th>
<th>Cronbach’s Alpha Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Stress</td>
<td>0.810</td>
<td>0.769</td>
</tr>
<tr>
<td>Accommodation Challenges</td>
<td>0.860</td>
<td>0.819</td>
</tr>
<tr>
<td>Loneliness/Homesick</td>
<td>0.772</td>
<td>0.700</td>
</tr>
<tr>
<td>Cultural Shock</td>
<td>0.867</td>
<td>0.867</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>0.797</td>
<td>0.799</td>
</tr>
<tr>
<td>Overall Evaluation of their (Previous) University Experience</td>
<td>0.742</td>
<td>0.562</td>
</tr>
</tbody>
</table>

Correlations among Latent Variables with sq. rts. of AVEs

According to Henseler et al. (2009), the Average Variance Extracted (AVE) is a measure of the variance of a set of items. Table 3 shows the AVEs values and the correlations among factors, with the square root of AVE in brackets on the diagonal.

P Value Correlations Using Variables

Table 4 shows the p-value correlations of each variable.

Case Comparison and Evaluation of Six Variables

Table 5 represents the comparison of variables and their effect on respondents’ pursuit of academic degrees. Table 5 shows that each type of variable has an R2 value of 0.97 which is the highest possible and that the beta values differ, consisting of five items for each variable.

Proposed Model

Figure 1 shows that loneliness or homesick has significant values of $\beta = 0.26$ and $p < 0.01$. Financial stress has significant values of $\beta = 0.22$ and $p = 0.01$ which is less than loneliness or homesick. Similarly, accommodation challenges, cultural shock, communication skills, and evaluation of their actual (previous) university experience, have significant values of $\beta = 0.21$ and $p = 0.02$; $\beta = 0.16$ and $p = 0.06$; $\beta = 0.20$ and $p = 0.02$; and $\beta = 0.19$ and $p = 0.03$ respectively. Of the six variables, loneliness or homesick has the highest significance in respondents’ pursuit of academic degrees.
Table 3. Correlations among Latent Variables with sq. rts. of AVES

<table>
<thead>
<tr>
<th></th>
<th>Financial Stress</th>
<th>Accommodation Challenges</th>
<th>Loneliness/Homesick</th>
<th>Cultural Shock</th>
<th>Communication Skills</th>
<th>Evaluation of their Actual (Previous) University Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Stress</td>
<td>(0.689)</td>
<td>0.606</td>
<td>0.687</td>
<td>0.695</td>
<td>0.448</td>
<td>0.705</td>
</tr>
<tr>
<td>Accommodation Challenges</td>
<td>0.606 (0.749)</td>
<td></td>
<td></td>
<td>0.417</td>
<td>0.418</td>
<td>0.485</td>
</tr>
<tr>
<td>Loneliness/Homesick</td>
<td>0.687</td>
<td>0.358</td>
<td>(0.643)</td>
<td>0.730</td>
<td>0.430</td>
<td>0.728</td>
</tr>
<tr>
<td>Cultural Shock</td>
<td>0.695</td>
<td>0.417</td>
<td>0.730</td>
<td>(0.762)</td>
<td>0.544</td>
<td>0.684</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>0.448</td>
<td>0.418</td>
<td>0.430</td>
<td>0.544</td>
<td>(0.667)</td>
<td>0.592</td>
</tr>
<tr>
<td>Evaluation of their Actual (Previous) University Experience</td>
<td>0.705</td>
<td>0.485</td>
<td>0.728</td>
<td>0.684</td>
<td>0.592</td>
<td>(0.620)</td>
</tr>
</tbody>
</table>

Table 4. P Values Correlations Using Six Variables

<table>
<thead>
<tr>
<th></th>
<th>Financial Stress</th>
<th>Accommodation Challenges</th>
<th>Loneliness/Homesick</th>
<th>Cultural Shock</th>
<th>Communication Skills</th>
<th>Evaluation of their Actual (Previous) University Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Stress</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accommodation Challenges</td>
<td>0.002</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loneliness/Homesick</td>
<td>&lt;0.001</td>
<td>0.085</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural Shock</td>
<td>&lt;0.001</td>
<td>0.043</td>
<td>&lt;0.001</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication Skills</td>
<td>0.028</td>
<td>0.042</td>
<td>0.036</td>
<td>0.006</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Evaluation of their Actual (Previous) University Experience</td>
<td>&lt;0.001</td>
<td>0.016</td>
<td>&lt;0.001</td>
<td>&lt;0.001</td>
<td>0.002</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Table 5. Comparison of Six variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Significance</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Stress</td>
<td>$\beta = 0.22$</td>
<td>$R^2 = 0.97$</td>
</tr>
<tr>
<td>Accommodation Challenges</td>
<td>$\beta = 0.21$</td>
<td>$R^2 = 0.97$</td>
</tr>
<tr>
<td>Loneliness/Homesick</td>
<td>$\beta = 0.26$</td>
<td>$R^2 = 0.97$</td>
</tr>
<tr>
<td>Cultural Shock</td>
<td>$\beta = 0.16$</td>
<td>$R^2 = 0.97$</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>$\beta = 0.20$</td>
<td>$R^2 = 0.97$</td>
</tr>
<tr>
<td>Evaluation of their Actual (Previous) University Experience</td>
<td>$\beta = 0.19$</td>
<td>$R^2 = 0.97$</td>
</tr>
</tbody>
</table>

Figure 1. Model of the factors affecting international students’ pursuit of academic degrees
Mean and Standard Deviation of Variables

Table 6. Mean and Standard Deviation of Variables

<table>
<thead>
<tr>
<th>Factors</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Shock</td>
<td>3.04</td>
<td>1.30</td>
<td>International Students</td>
<td>3.00</td>
<td>1.06</td>
</tr>
<tr>
<td>Accommodation Challenges</td>
<td>2.96</td>
<td>1.30</td>
<td>International Students</td>
<td>3.00</td>
<td>1.06</td>
</tr>
<tr>
<td>Evaluation of their Actual (Previous) University Experience</td>
<td>2.67</td>
<td>1.27</td>
<td>International Students</td>
<td>3.00</td>
<td>1.06</td>
</tr>
<tr>
<td>Communication Skills</td>
<td>2.67</td>
<td>1.24</td>
<td>International Students</td>
<td>3.00</td>
<td>1.06</td>
</tr>
<tr>
<td>Financial Stress</td>
<td>2.63</td>
<td>1.21</td>
<td>International Students</td>
<td>3.00</td>
<td>1.06</td>
</tr>
<tr>
<td>Loneliness/Homesick</td>
<td>2.50</td>
<td>0.98</td>
<td>International Students</td>
<td>3.00</td>
<td>1.06</td>
</tr>
</tbody>
</table>

Graphs showing the effect of variables

Graphs are presented for each latent variable affecting respondents. Figure 2 shows that the relationship is positively supported and is linear. The relationship intensifies at approximately -1.31 standard deviation to the right of the mean of the standardized data. Further, the unstandardized scales (Table 6) show the linear relationship begins to increase when the mean for the respondents is 3.00 and the standard deviation is 1.06. These results show that financial stress significantly affects international students.

Figure 4 shows that the relationship is positively supported and is linear. The relationship intensifies at approximately -0.94 standard deviation to the right of the mean of the standardized data. Further, the unstandardized scales (Table 6) show the linear relationship begins to increase when the mean for the respondents is 3.00 and the standard deviation is 1.06. These results show that accommodation challenges significantly affect international students.

Figure 6 shows that the relationship is positively supported and is linear. The relationship intensifies at approximately -1.35 standard deviation to the right of the mean of the standardized data. Further, the unstandardized scales (Table 6) shows the linear relationship begins to increase when the mean for respondents is 3.00 and the standard deviation is 1.06. These results show that loneliness/homesick significantly affects international students.

Figure 8 shows that the relationship is positively supported and is linear. The relationship intensifies at approximately -1.24 standard deviation to the right of the mean of the standardized data. Further, the unstandardized scales (Table 6) shows the linear relationship begins to increase when the mean for the international students is 3.00 and the standard deviation is 1.06. These results show that culture shock significantly affects international students.

Figure 10 shows that the relationship is positively supported and it is linear. The relationship intensifies at approximately -0.56 standard deviation to the right of the mean of the standardized data. Further, the unstandardized scales (Table 6) shows the linear relationship begins to increase when the mean for respondents is 3.00 and the standard deviation is 1.06. These results show that communication skills significantly affect international students.

Figure 2. Financial stress on the factors affecting respondents’ pursuit of academic degrees
Figure 4. Accommodation challenges on the factors affecting respondents’ pursuit of academic degrees

Figure 6. Loneliness/Homesick on the factors affecting respondents’ pursuit of academic degrees

Figure 8. Cultural shock on the factors affecting respondents’ pursuit of academic degrees
Summary of the Study Results

Figure 12 shows that the relationship is positively supported and is linear. The relationship intensifies at approximately -1.46 standard deviation to the right of the mean of the standardized data. Further, the unstandardized scales (Table 6) shows the linear relationship begins to increase when the mean for respondents is 3.00 and the standard deviation is 1.06. These results show that Evaluation of their Actual (Previous) University Experience significantly affects international students.

Conclusion and Recommendations

This study has revealed that all the variables studied affect international students in pursuit of their academic
degrees. Regardless of which theory is applied, financial stress, accommodation challenges, cultural shock, loneliness/homesick, communication skills, evaluation of their actual (previous) university experience, appear to be important factors for international students as they pursue higher degrees. The above findings are in line with the Yeh and Inose (2003) for language challenges; Bradley (2000) for Isolation; Sandhu and Asrabadi (1994) for homesickness; perceived hatred, guilt and fear; Trice (2007) for culture; Mullins et al. (1995) for racial intolerance; and Felix and Lawson (1994) for students’ academic progress. The proposed model clearly shows that loneliness/homesick $\beta=0.26$ have the highest impact on the international students followed by financial stress $\beta=0.22$, accommodation challenges $\beta=0.21$, communication skills $\beta=0.20$, evaluation of their actual (previous) university experience $\beta=0.19$ and the cultural shock $\beta=0.16$ while $R^2 = 0.97$.

This study recommends that international students should endeavour to know and understand these factors namely loneliness/homesick, financial stress, accommodation challenges, communication skills, evaluation of their actual (previous) university experience, and the cultural shock to take cognisance of them in their pursuit of higher education. International student offices that cater for the needs of international students should also be mindful of these factors and challenges. This awareness will assist in planning to cater for the needs of international students and thus ensure a better path for them as they pursue their academic degrees.

REFERENCES


نموذج دراسة تحصيل الدرجة الأكاديمية العليا المكونة لنموذج الحالة

دي. غوفندر، س. ك. جاساك

ملخص

يسعى هذا البحث لدراسة عينة من خلال تقديم النموذج الوصفي في جامعة Kwazulu Natal University نموذج دراسة تحصيل الدرجة الأكاديمية العليا المكونة لنموذج الحالة، وذلك لبحث ودراسة العوامل الإحصائية التي تمثل ضاغطًا ماليًا واقتصاديًا وثقافيًا.

الكلمات الدالة: التحصيل الشامل، التحصيل المعرفي، التحصيل الشامل، الريشة الطائرة.