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Internationalisation at a Distance and at Home: Academic and Social Adjustment in a South African Distance Learning Context

Abstract:

With the rise of technology and distance learning, a recently new type of internationalisation of higher education seems to be emerging in Southern Africa higher education, which we coin as Internationalisation at a Distance. In this empirical study, we aim to provide an initial attempt to theorise this form of Internationalisation at a Distance through an in-depth analysis of 1141 students' experiences while studying at the largest distance learning institution in Southern Africa. Using an adjusted version of the Student Adaptation to College Questionnaire (SACQ) instrument developed by Baker and Siryk (1999), we have explored the study experiences of international students living at a distance, as well as South Africans and international students living in South Africa. Our regression models indicate that academic adjustment is significantly predicted by emotional adjustment, attachment towards the institution, access to technology, and internationalisation at home students. The results highlight the need for a much more complex narrative around internationalisation in distance learning settings in light of technological advances, requiring a potential reconsideration of what internationalisation 'abroad' and 'at home' might mean.

1. Introduction

It is widely documented that an increasing number of students are opting to study internationally (Geeraert, Demoulin, & Demes, 2014; Institute for Statistics UNESCO, 2018; Rienties & Tempelaar, 2013). While, until recently, flows of international students primarily concentrated in the 'Global North' (e.g., Europe, North America and Australia), there is emerging evidence of increasing recruitment of international students to traditional 'sending countries' (Jones & de Wit, 2012; Kondakci, Bedenlier, & Zawacki-Richter, 2018; Madge, Raghuram, & Noxolo, 2015). For example, South Africa has become an Emergent Regional Hub (ERH) for international students,

primarily from other countries in Africa (Kondakci et al., 2018; Lee & Schoole, 2015; Mokhothu & Callaghan, 2018).

Although much existing rhetoric on this topic has focused on recruitment of international students, international higher education has substantially changed in adoption and practice since the 1990s, and now encompasses a broad range of experiences within and beyond the curriculum (Jones & de Wit, 2012; Knight, 2008; Madge et al., 2019). One way to categorise internationalisation activities in higher education is to apply Jane Knight's (2008) distinction between Internationalisation Abroad and Internationalisation at Home. Internationalisation Abroad (IA) refers to all forms of education across borders, including movement of students (Rienties & Tempelaar, 2013; Ward, Okura, Kennedy, & Kojima, 1998), staff (Paik et al., 2015), and programmes (Waterval, Frambach, Driessen, & Scherpbier, 2015). A typical example of IA would be students physically moving to a different country for a certain period of time, and experiencing positive and negative transitions into a different culture, language, and/or university context (Jindal-Snape & Rienties, 2016).

Recently there is also a growing research focus on Internationalisation at Home (IaH), which alternatively aims to develop intercultural and international awareness for students within their home country (Colvin & Volet, 2014; Heffernan, Morrison, Magne, Payne, & Cotton, 2018). In this way, IaH can be characterised by the holistic integration of international dimensions into the higher education experience (Knight, 2004), including formal, informal, and hidden curricula (Leask, 2004, 2009). For example, universities might incorporate intercultural learning opportunities or international social programming aimed at both international and home students. According to Jones and de Wit (2012, p. 47), these IaH activities help 'students develop

international understanding and intercultural skills ... that prepare students to be active in a much more global world.'

Yet, this binary classification of internationalisation in higher education (i.e., IA and IaH) of Knight (2008) perhaps needs further elaboration in light of technological advancements in a globally connected world (Gemmell & Harrison, 2017; Kizilcec, Saltarelli, Reich, & Cohen, 2017; Madge, Meek, Wellens, & Hooley, 2009; Rienties, Tempelaar, Van den Bossche, Gijsselaers, & Segers, 2009) and the rise in distance learning models (Badat, 2005; Simpson, 2013; Subotzky & Prinsloo, 2011). For example, an increasing number of students now decide to follow a distance learning education programme across geographical borders using technology (e.g., Gunter & Raghuram, 2018; Rienties et al., 2009; Simpson, 2013; Subotzky & Prinsloo, 2011; Tait, 2018).

In addition, there is considerable cross-border potential for learners to connect via social media (Forbush & Foucault-Welles, 2016; Madge et al., 2009) and through Massive Open Online Courses (MOOCs), which are followed by millions of learners from across the globe (Kizilcec et al., 2017). These distance learners represent a developing 'third category' for international education, as they learn through institutions based in a culture or country distant from their own, while simultaneously remaining within their own country of residence. This seems to blend the IA and IaH categorisations established by Knight (2008) by providing opportunities to learn from abroad while remaining at home. We, therefore, conceptualise a new, third categorisation to complement existing theories of internationalised education: **Internationalisation at a Distance (IaD)**. This term was first suggested by Ramanau (2016), but we have now more comprehensively defined it as:

All forms of education across borders where students, their respective staff, and institutional provisions are separated by geographical distance and supported by technology.

This distinction aligns nicely with earlier work by Leask (2004, p. 340), who argued:

‘The use of the Internet by all students to access information, communicate with teachers, and interact and collaborate with other scholars and learners all over the world means that distance and time are, theoretically at least, no longer barriers to international exposure and awareness for any student with access to a computer and a modem.’

As technology and distance education possibilities have progressed, many of the suggested tasks outlined by Leask (2004) for increasing international learning from abroad have become reality (and, even, the norm), including synchronous and asynchronous online discussions, online forums for discussing intercultural learning topics, and online tutorial group projects (e.g., Gunter & Raghuram, 2018; Rienties et al., 2009; Simpson, 2013; Subotzky & Prinsloo, 2011; Tait, 2018). For example, in a study of 64 students following a blended/online master programme Gemmell and Harrison (2017) found that IaD students accessed more learner support resources, while at the same time experiencing more technological difficulties in comparison to IaH students and European IA students. As such, there is need to expand our existing distinction between the ‘categories’ of internationalisation efforts experienced by higher education students.

In this study, we aim to conceptualise the complexities of IaD through an in-depth analysis of 1141 students’ experiences in an international distance learning context. In doing so, we also argue that, while there is a substantial body of research related to internationalisation and distance learning in particular in Global North countries, relatively few researchers have focused on experiences in other contexts (Jones & de Wit, 2012). When considering our proposed third category of internationalisation (IaD), it is necessary to evaluate whether experiences in

international distance education do indeed differ from those physically located in the same country as their institution (i.e. those experiencing IaH). In this regard, an understanding of students' adjustment experiences between these two categories – defined as students' abilities to cope with the multifaceted changes and stressors in their lives as a result of higher education study (Baker & Siryk, 1999; Tinto, 1998) – can provide useful insights to support further theorisation.

Therefore, building on the study by Mittelmeier et al. (2019), we have focused on the distance learning experiences of students studying at the University of South Africa (UNISA), the largest distance learning provider in Africa. In doing so, we compared the study experiences of home South African students (i.e., experiencing IaH) with international students living and working outside South Africa (i.e., experiencing IaD). In particular, we have explored similarities and differences in academic adjustment, personal emotional adjustment, social adjustment, and attachment towards UNISA between IaH and IaD students, which are described next.

2. Academic and social adjustment of international students

2.1 Adjustment experiences in higher education

Research around the world suggests that adjustment to the multiple transitions that arise from higher education experiences plays a key role in academic success (Credé & Niehorster, 2012; Jindal-Snape & Rienties, 2016). The early student adjustment models of Tinto (1975); (1998), and others, like Baker and Siryk (1999), have outlined the many variables that impact retention, including whether students complete their studies or drop out. In particular, the interaction student attrition model of Tinto (1975) considered the wide variation in background experiences of students, including differences in educational experiences, skills or competencies, personal values towards

education, and family or community backgrounds (among others). As such, adjustment experiences in higher education can be impacted by both individual and social factors.

According to Tinto (1975), success in higher education depends not only on students' ability to meet the demands of academic study (i.e. academic adjustment), but also their ability to develop sustained ties to the university community (i.e. social adjustment), both inside and outside formal learning spaces. When considering the IaD context, adjustment experiences may vary due to physical distance from staff, peers, and resources. In particular, establishing social adjustment at a distance might be more complex than at a traditional campus-based university (see section 2.3).

In line with Tinto's interaction model, Baker and Siryk (1999) developed the Student Adaptation to College Questionnaire (SACQ) as a mechanism for measuring adjustment experiences. Building on Tinto's work, Baker and Siryk (1999) included academic and social adjustment, but also recognised two additional categories: emotional adjustment and attachment to the university. In their model, *Academic adjustment* refers to the degree of a student's success in coping with various educational demands such as motivation, application, performance and satisfaction with the academic environment. *Social adjustment* describes how well students deal with the interpersonal-societal demands of a study, such as making friends, being part of social activities or being able to work in groups. The *personal and emotional adjustment scale* indicates the level of psychological and physical distress while adapting to the academic way-of-life. Finally, *attachment* reflects the degree of commitment to educational and institutional goals.

However, according to Volet and Jones (2012, p. 246), most research on student adjustment shows 'limited theorizing on the bilateral and reciprocal nature of adaptation and few conceptualisations of individuals as actors with a capacity to

regulate their participation in challenging social environments.’ Indeed, students’ social lives within and outside of the academic environment has consistently been found to strongly impact on how diverse groups of students interact, work and learn together (Hendrickson, 2018; Jindal-Snape & Rienties, 2016; Rienties & Nolan, 2014). Sharing accommodation with peers (Ward et al., 1998), having a sufficient number of friends from the host culture as well with co-national peers (Forbush & Foucault-Welles, 2016; Hendrickson, 2018; Rienties & Nolan, 2014), and/or being involved extra-curricular activities (Hendrickson, 2018) can influence academic and social adjustment, and overall wellbeing. For example, Geeraert et al. (2014, p. 89) highlighted that, for newly arrived international students, ‘close contact with co-nationals may be very welcome and have the effect of reducing stress and providing a sense of adjustment.’ However, given that most of this work has been conducted in face-to-face contexts on physical campuses in the Global North, there are likely to be strong differences in experiences between them and those studying in South African context.

2.2 Adjustment experiences in South African higher education

Higher education in South Africa encounters many of the obstacles experienced around the world, including changing student profiles, funding regime fluctuations, and massification of higher education (Jones & de Wit, 2012; Kondakci et al., 2018; Lee & Sehoole, 2015; Mittelmeier et al., 2019; Rienties, Beusaert, Grohnert, Niemantsverdriet, & Kommers, 2012). Under the apartheid system, higher education in South Africa limited student participation by race, language and tribe. White, black, Indian and coloured students were placed in different institutions and, further, separated by tribes and language groups in the country to be educated in specific universities based on their local “characteristics” (Bunting, 2006). The historical separation of

groups into different institutions has left a legacy (Lee & Schoole, 2015; Sommer & Dumont, 2011).

Also impacting learning experiences in South Africa is the intergenerational legacies of colonialism and apartheid on education more broadly (Badat, 2005). These historic realities have had profound implications for higher education in the country, with particular disparities persisting between black and white students in areas such as preparation for university, access to university, and access to resources required for study. Yet as an ERH, South Africa has played a substantial role in education across Africa (Gunter & Raghuram, 2018; Madge et al., 2015; Subotzky & Prinsloo, 2011).

Taken broadly, these historical contexts have meant that South Africa has come late to the provision of international higher education. A few notable institutions have been attracting international students for many years; in particular, Fort Hare University has a long list of African alumni including notable African leaders. More recently, institutions such as the University of Cape Town and The University of the Witwatersrand have also begun to attract an increasing large number of international students. However, UNISA, as the only mega university in the country (with more than 350,000 students), has by far the largest number of international students, albeit mostly studying distantly from their own country of residence.

With South Africa's distinction as an ERH, there is some emerging evidence that the SACQ instrument is appropriate to the South African context (Mittelmeier et al., 2019; Petersen, Louw, & Dumont, 2009; Sennett, Finchilescu, Gibson, & Strauss, 2003; Sommer & Dumont, 2011). For example, Sennett et al. (2003) compared the SACQ subscale scores of 158 black and 181 white students at a historically white university and found comparable scores with the exception of higher social adjustment scores for white students. Sommer and Dumont (2011) found that motivation, self-

esteem, perceived stress, academic overload, and help-seeking behaviour predicted adjustment, and subsequent academic performance of 101 students.

Outside of the SACQ, McGhie (2017) has outlined factors that impacted South African students' experiences, which included educational background or preparation for university and academic workload or course load. At the same time, Lekena and Bayaga (2018, p. 157) described how over '50 per cent of students, typically those from low-income or deprived circumstances, drop out due to financial struggles to carry the direct and indirect costs of university attendance.' Other factors influencing students' adjustments in South Africa include student support services (Gunter & Raghuram, 2018; Jordaan, 2016) and family support structures (Daniels, 2017). In a recent study amongst 263 international students, motivation, cultural intelligence, and sociocultural adaption were found to be predictive for academic performance at one South African university (Mokhothu & Callaghan, 2018).

2.3 Adjustment experiences in Internationalisation at Distance

Although the above studies highlight that SACQ is a useful conceptual approach and instrument for understanding the multivariate adjustment processes of international and home students in face-to-face universities, there is a stark paucity of research that has explored the adjustment processes of students in distance learning settings, and, in particular, in a South African context. The limited research that exists has highlighted that experiences may be considerably different compared to students studying in face-to-face contexts (Gemmell & Harrison, 2017; Kizilcec et al., 2017; Simpson, 2013; Tait, 2018). There is a wealth of literature that highlights that access to technology is an important factor for success for learning (Hillstock & Havice, 2014). In a (South) African context, where access to reliable electricity and internet is not always a given (Gunter & Raghuram, 2018; Madge et al., 2015; Venter, van Rensburg, & Davis, 2012),

there may be additional barriers for distance learners to successfully follow and contribute to the educational experience.

Given the large international student cohort at UNISA, comparing the experiences of IaD and IaH students can illuminate whether and how these different forms of internationalisations impact experiences. In this way, a small bank of research has attempted to address this topic. For example, questions have been raised about issues such as access to materials and resources (Gunter & Raghuram, 2018; Halabi, Essop, Carmichael, & Steyn, 2014), developing social connections between students living distantly (Meier, 2007), and bridging physical distance through synchronous activity offerings (Olivier, 2016). For example, Mittelmeier et al. (2019) compared SACQ results to explore the lived experiences of 36 international and 284 home distance learners at UNISA and found strong differences in the academic and social adjustment processes of distance learning students, which, in part, were influenced by language, race, financial background, and access to resources via technology.

Yet to the best of our knowledge, there has been no systematic research which has compared the lived experiences of IaH and IaD students. This represents a major gap in current knowledge, considering the rising trends of distance learners studying through institutions located in another country (Tait, 2018). At the same time, while there is a wealth of research on both how to design effective distance learning programmes (Simpson, 2013) and how to incorporate internationalised assignments into the curriculum (Knight, 2004, 2008; Leask, 2009), most of this work does not specifically take internationalisation factors into consideration.

2.3.1 Hypothesising Academic and social adjustment in IaD, IaH, and IA

In theorising IaD, we recognise there are three potentially distinct ‘categories’ of students’ experiences, based on their geographical location and country of

citizenship in relation to the host institution. First, we identify home South African students who live in South Africa and study at UNISA, who we refer to as examples of Internationalisation at Home (IaH). Second, there is a relatively smaller subset of international students (i.e. non-South African) who study at UNISA and have physically moved to South Africa (Mittelmeier et al., 2019; Mokhothu & Callaghan, 2018), which we refer to as examples of Internationalisation Abroad (IA). Finally, there are international students who decide to undertake their education at UNISA, but who do not live in South Africa, in other words Internationalisation at Distance (IaD).

Building on nearly 40 years of internationalisation research (Jindal-Snape & Rienties, 2016; Rienties et al., 2012; Rienties & Tempelaar, 2013; Volet & Jones, 2012; Ward et al., 1998), and as highlighted above in sections 2.1-2.2, there is substantial support in face-to-face contexts that some groups of international students may experience relatively more (and different) academic and social adjustment challenges compared to home students. A common finding in internationalisation research is that home students are often more familiar with the local context, language, and academic approaches, and may also have stronger network structures in place to support their studies (Colvin & Volet, 2014; Jindal-Snape & Rienties, 2016). In addition, previous research has found that studying at a distance becomes more challenging when students are at greater geographic distance relative to the host institution (Coe-Meade, 2015; Hillstock & Havice, 2014; Kizilcec et al., 2017). Therefore, in terms of our first four hypotheses, we expect that the adjustment experiences of IaH students will be relatively easier than of IA and IaD students.

H1 Internationalisation at Home (IaH) students have higher academic adjustment scores relative to Internationalisation Abroad (IA), and Internationalisation at Distance (IaD) students.

H2 IaH students have higher social adjustment scores relative to IA, and IaD students.

H3 IaH students have higher personal-emotional adjustment scores relative to IA, and IaD students.

H4 IaH students have higher attachment scores relative to IA, and IaD students.

As indicated previously, in the literature on distance learning there is a wealth of research that shows that access to technology (Hillstock & Havice, 2014; Venter et al., 2012), resources (Subotzky & Prinsloo, 2011), and a quiet space to study are important mediators for successful study progress for international and home students. Therefore, we expect that access to technology at home, regardless of study location, is positively related to the four scales of SACQ (H5-H8).

H5 Access to technology at home is positively related to academic adjustment

H6 Access to technology at home is positively related to social adjustment

H7 Access to technology at home is positively related to personal-emotional adjustment

H8 Access to technology at home is positively related to attachment at UNISA

Finally, previous research has nearly universally found that academic adjustment is a primary driver for academic performance (Credé & Niehorster, 2012; Rienties et al., 2012; Rienties & Tempelaar, 2013). Therefore, bringing together these hypotheses, and, in particular, exploring the potential factors that influence academic adjustment is important to explore. Furthermore, we expect that access to technology and being from South Africa is positively related to academic adjustment.

H9 Being from South Africa and having access to technology has a positive impact on academic adjustment

H10 Academic adjustment is positively predicted by social adjustment, personal emotional adjustment, attachment, access to technology, and being from South Africa.

3. Methods

3.1. Setting and Procedure

Distance education is a significant subsection of South African higher education, with up to 40% of all higher education students studying in a distance learning programme (Department of Higher Education and Training, 2014). UNISA is a key institution in this distance learning environment, with a large student enrolment of almost 360,000 students – 300,000 more than any other public university in the country. UNISA does not require students to spend any time in South Africa during their study period and has examination centres in 85 countries.

All undergraduate modules are offered in one of three modes: online, blended or via correspondence. Blended modules are the most common offering using hard copy course material supported by online digital material (Mittelmeier et al., 2019; Subotzky & Prinsloo, 2011; Venter et al., 2012). Pastoral support, career, and library services are offered at the university by telephone, email, or face-to-face by non-compulsory support programs only in South Africa and Ethiopia; there are no other physical centres in other countries (beyond examination support). English is the language of instruction, with a small number of modules being offered in another indigenous South African language as well. This is despite only a small minority of students at the university being first language English speaker.

3.2. Participants

This research took place with 1st – 3rd year undergraduate students, as well as postgraduate students at UNISA. We specifically sampled students from the three internationalisation categories in two phases. First, we initially sampled 2634 students from a first-year level course unit with undergraduate students studying for a Bachelor of Science degree in Mathematics and Programming in the College of Science, Engineering and Technology. In the second part of our study, 7907 students in the selected programmes were invited to participate via email, which included a link to the online survey. Altogether, 1295 students participated in this study, which is a large sample of participants with a very reasonable response rate of 16.38% (Nulty, 2008). In line with our study's primary focus, we excluded from our analysis 154 South Africans living abroad, leading to 1141 respondents.

The majority of respondents were female (n = 710, 58%), which is representative of demographics across the institution. In terms of citizenship, 369 were South African (32%) and 772 were international students (i.e. not South African) (68%) from 24 countries across Africa, primarily from Zimbabwe (27%), Namibia (12%), Botswana (4%), Swaziland and Zambia (each 3%). 24 participants were from countries outside Africa. Most students were black (n = 70%), followed by white (15%), coloured (5%), and Indian or Asian (4%)¹. 45 participants declined to provide information about their race, and 19 indicated 'other.' Of particular interest in this study, there were 276 (24%) South Africans living in South Africa (IaH), 29 (3%) international students living in South Africa (IA), and 709 (62%) international students living outside South Africa (IaD).

¹ These four racial categories are defined by the South African government and asked to students in response to post-1994 legislation and regulatory frameworks.

The vast majority of students studied part time towards their degree (75%). 43% of participants were first-year students, 19% were second-year, 28% were third-year, and 5% were postgraduate students. Rather interestingly, 47% of participants, primarily IaD students, had already received a university qualification before starting at UNISA. The vast majority were in full-time work (63%), followed by part-time work (10%), looking after the family (10%), or currently unemployed (10%). In terms of age, the average age was 34.05 (SD = 8.98, with a range of 18-70). Most participants (82%) lived in an urban environment, were self-funded (83%), and nearly 40% of participants indicated that one or both of their parents attended university. Altogether, the sample was a reasonable representation of the student population at this institution, highlighting that the vast majority of participants were relatively young, urban professionals, and fairly typical for “modern” distance learners (Gunter & Raghuram, 2018; Simpson, 2013; Subotzky & Prinsloo, 2011; Tait, 2018).

3.3. Materials

3.3.1 Students Adaptation to College Questionnaire

Building on previous research, the Student Adaptation to College Questionnaire (SACQ) (Baker & Siryk, 1999) was employed to measure the multifaceted adjustment experiences of all three categories of distance learners at UNISA (i.e. IA, IaH, and IaD). SACQ measures students’ experiences across four subscales: academic adjustment (e.g., I have been keeping up to date with my academic work), social adjustment (e.g., I am meeting as many people and making as many friends as I would like at UNISA), personal-emotional adjustment (e.g., I have felt tired much of the time lately), and attachment (e.g., I am pleased with my decision to attend UNISA in particular).

Previous research has used the SACQ successfully in the South African higher education context (see section 2.2). However, considering that many students were

studying distantly with relatively limited access to the internet, we shortened the original instrument in line with Mittelmeier et al. (2019) to avoid questionnaire fatigue and cater to students' life circumstances. This built on the extensive validation process previously undertaken by Rienties and colleagues (2012; 2013) on 1200 responses across nine universities in the Netherlands. The highest factor loadings for the SACQ were used, keeping in mind the relevance for distance learning contexts. Therefore, the original questionnaire was reduced from 69 to 35 items, which participants answered on a 1-9 Likert scale (1 = strongly disagree, 9 = strongly agree).

The validity and appropriateness of the instrument for South Africa and a distance learning context was assessed using the think aloud method with 16 UNISA students prior to the study. This exercise outlined that the questions were indeed clear and relevant to UNISA's distance learning context (Mittelmeier et al., 2019). Cronbach alphas for the 1141 participants showed good internal reliability for the four scales (academic adjustment, $\alpha = .713$; social adjustment, $\alpha = .751$; personal-emotional adjustment, $\alpha = .743$; and attachment, $\alpha = .872$). Separate analyses for the three internationalisation categories indicated that the Cronbach alphas were similar. The questionnaire was also assessed using factor analysis, which demonstrated good fit for all four SACQ constructs. In terms of measurement equivalence, separate factor analyses for two of the internationalisation categories indicated similar patterns across the categories (IA had too few respondents to conduct a meaningful factor analysis)².

3.3.2 Access to technology and demographic factors

To better understand how access to technology might influence academic and social adjustment processes, we included 14 questions about how participants accessed

² The full questionnaire and respective items and constructs are freely available at <http://ideaspartnership.org/publications>

technology. We distinguished between having access to a computer and the internet (i.e., 2 items) at home, at work, in public spaces (e.g., internet café, library), and/or at one of the UNISA centres. Furthermore, as indicated previously (Gunter & Raghuram, 2018; Subotzky & Prinsloo, 2011) access to a quiet space to learn - at home, work, public space, and/or UNISA - was also probed. Finally, one item was included about access to a mobile phone. Although we acknowledge that having access to computers, internet, or mobile phones might be widespread in a Western context and assumed, given the large roaming and internet connection costs in Sub-Saharan Africa, we were mindful that even if participants indicated that they had access to, say, a smartphone, this does not automatically imply that they would have continuous 24/7 access.

Furthermore, 20 questions related to students' backgrounds, and demographics were included. These included questions such as their gender, age, race, country of citizenship, first language, and occupation status (i.e., full-time student, full-time work, part-time work, looking after the family/home, retired from paid work, unable to work due to long-term sickness or disability, unemployed and looking for a job, unemployed and not looking for a job), see Appendix Table 1.

3.4 Data analysis

To compare SACQ scale scores across the three internationalisation categories, ANOVAs with partial eta squared were used in terms of effect size, which are commonly reported as 0.01 (small), 0.09 (medium) and 0.25 (large). For follow-up analyses related to participants' demographic variables, bivariate analysis was conducted using Pearson's r . Furthermore, we calculated regression analyses for each of the SACQ scales as dependent variable, including participants' background characteristics as independent variables. Finally, in order to address H9-H10 we ran a

regression model of academic adjustment, as a wealth of research (Credé & Niehorster, 2012; Rienties et al., 2012) has found that academic adjustment is the key predictor for long-term study success and academic performance. In the results section, we have indicated confirmed hypotheses in bold, and hypotheses confirmed in the opposite direction in italic. Ethical approval for this study was obtained and approved, HREC/XXXX-blinded.

4. Results

4.1 Academic and social adjustment across the three internationalisation categories

Across the 1141 participants, 59% of participants indicated that they felt positively academically adjusted at UNISA (M = 6.24, SD = 1.13, Range 2.64-9.00), taking 6 as a positive cut-off score. As indicated by both the relatively large standard deviation and wide range, some participants had relatively low (self-reported) academic adjustment scores, while others had high adjustment scores, which is in line with previous findings (Mittelmeier et al., 2019; Mokhothu & Callaghan, 2018; Rienties & Tempelaar, 2013). Perhaps not entirely surprising given the distance learning context in which participants studied, only 33% of participants indicated that they felt socially adjusted (M = 5.27, SD = 1.50, Range 1.33-8.89). In addition, 52% of participants indicated that they felt emotionally adjusted (M = 6.05, SD = 1.61, Range 1.00-9.00). Nonetheless, there was a strong attachment towards UNISA, whereby 86% of participants indicated positive attachment (M = 7.50, SD = 1.32, Range 1.00-9.00). This finding is surprising, given that participants were not living on campus and likely did not have close, personal engagement with peers and staff. Similar findings were reported by Mittelmeier et al. (2019).

Subsequent analyses across the three internationalisation categories indicated that Internationalisation Abroad (IA) students had the highest overall SACQ score on

average, followed by International students at Distance (IaD), and South Africans living in South Africa (IaH). In order to test H1-H4, as indicated in Table 1, follow-up ANOVAs indicated no significant differences between the three internationalisation categories in terms of academic adjustment (H1). Similarly, no support for H2 was found in terms of different social adjustment scores across the three internationalisation categories.

However, significant differences were found in terms of emotional adjustment with a small effect size. In this regard, South Africans living in South Africa (IaH) indicated significantly lower personal-emotional adjustment scores relative to their peers. IA students and IaD students had substantially higher emotional adjustment scores, which went against our expectations (-H3). Similarly, significant differences were found in terms of attachment (-H4), whereby IA and IaD students had higher attachment scores relative to South African students, which was surprising. In other words, in contrast to previous findings in face-to-face contexts, international students in this distance learning context had similar academic and social adjustment scores to home students, and higher personal-emotional and attachment scores.

→ Insert Table 1 about here

4.2 Academic and social adjustment and technology access

Table 2 shows access to technology and study space across the three internationalisation categories. Substantial and significant differences were found between the three internationalisation categories, whereby IaD students had significantly higher access to technology, all medium to large in effect size. In particular, 80% of IaD students had access to a computer at home, and 79% also had access to mobile phone. IaH and IA

students (i.e., those living in South Africa) had less access to a computer and the internet. Overall, a sharp contrast was found between international students who lived in South Africa, who generally had less access to technology, and international students who studied at a distance, who mostly had good access to technology.

→ Insert Table 2 about here

Follow-up correlation analyses in Table 3 indicated that the three access to technology and study items were related, but multifaceted. We found support for **H5** that access to technology had a positive impact on academic adjustment, in particular a quiet space to study ($r = .082, p < .05$) and access to technology at home ($r = .078, p < .05$), although with a small rho. Perhaps surprisingly, access to technology was negatively correlated with social adjustment (*-H6*), but again with a small effect size. In terms of **H7**, positive correlations were found between access to technology and emotional adjustment ($\rho=0.100, p < .01$). Finally, no significant relations ($\rho=0.045, p = ns$) were found in terms of technology and attachment towards the institution (**H8**).

→ Insert Table 3 about here

As the final step, we conducted regression analyses of the four SACQ scales, access to technology, and a range of demographic factors (i.e., gender, age, language) and students' level of study, whereby we selected the largest group within a respective category as the benchmark (i.e., IaD students, black, full employment, and first-year students). As indicated in Table 4, the three categories of internationalisation had a significant impact on social adjustment, emotional adjustment, and attachment, but not

academic adjustment. South Africans living in South Africa (IaH) had higher social adjustment relative to IaD (**H2**), but lower emotional adjustment and attachment relative to IaD (*-H3*, *-H4*).

➔ Insert Table 4 about here

Access to technology significantly predicted academic adjustment and emotional adjustment in Table 4, indicating that students with better technology access also had better academic adjustment (**H5**) and emotional adjustment (**H7**). Age positively predicted all four SACQ scores, indicating that relatively older learners had better adjustment than younger learners. Gender and type of occupation (being a full time student, looking after the family, and other occupation (i.e., retired from paid work, unable to work due to long-term sickness, unemployed) had no significant impact on the SACQ scores. English as a first language also had no impact on SACQ scores, except for a negative impact on emotional adjustment, while working part-time had a positive impact on emotional adjustment.

Using black students as a benchmark, coloured, Indian/Asian, and white students had significantly lower SACQ scores as all betas were negative and all except two were significant. In other words, the majority of black UNISA students felt better adjusted to the distance learning setting than others. Finally, relative to first-year students those who studied in second-year, third-year, and post-graduate level had significantly lower attachment towards UNISA. Furthermore, those at third-year and post-graduate level had significantly lower (self-reported) academic adjustment and personal-emotional adjustment relative to first-year students. We note that although

some of demographic factors and access to technology significantly predicted the four SACQ scores, the amount of explained variance was relatively low ($\leq 8\%$).

Finally, Table 5 includes the respective SACQ scores of social adjustment, emotional adjustment, and attachment into the regression model for academic adjustment. Social adjustment positively predicted academic adjustment in Model 1. When emotional adjustment was added in Model 2, the beta of social adjustment reduced substantially, and the primary predictor for academic adjustment was personal-emotional adjustment, followed by social adjustment, being a full time student, and access to technology, thereby providing support for **H9**. Finally, in Model 3, attachment to UNISA also significantly predicted academic adjustment. Noteworthy is that in the final model race, gender, age, and level of study did not significantly predict academic adjustment. In other words, students who were emotionally adjusted had a positive attachment towards UNISA, were better socially adjusted, had access to technology, lived in South Africa (IaH), and were full-time students had higher academic adjustment relative to others (**H10**).

→ Insert Table 5 about here

5. Discussion

This study has built on the work of Knigh (2008) to conceptualise a new third curriculum internationalisation category, Internationalisation at a Distance (IaD), through an in-depth analysis of 1141 students' experiences at one of the world's largest distance education providers, the University of South Africa (UNISA). This conceptualisation arises from the increasing phenomenon of students who study from the comforts of their home using technology through an institution that is simultaneously located abroad. After all, recent technological advances in distance

learning opportunities have brought to reality the suggested technological affordances for curriculum internationalisation that were highlighted nearly two decades ago (Leask, 2004). Using the widely-used conceptual model of student adjustment developed by Baker and Siryk (1999), we have identified nuanced differences between the experiences of South African students living in South Africa (IaH), international students living in South Africa (IA), and international students living in countries outside of South Africa (IaD). As such, our findings have provided empirical evidence for differentiating between these three categories of curriculum internationalisation, as initially suggested by Ramanau (2016). Given our findings, we argue for continued theorisation and research into Internationalisation at a Distance to further build upon and enhance the internationalisation framework originally developed by Knight (2008).

Our ten hypotheses in this study focused on categories of students who we assumed might experience better adjustment than their peers. First, we considered adjustment experiences across the three internationalisation categories (H1-H4). In line with previous internationalisation research (Leask, 2009; Rienties & Tempelaar, 2013; Volet & Jones, 2012; Ward et al., 1998) and distance education literature (Rienties et al., 2009; Simpson, 2013; Subotzky & Prinsloo, 2011; Tait, 2018), we expected that IaH students would have higher adjustment scores relative to IA and IaD students, given that IaH students were both geographically closer to UNISA and more familiar with the explicit and hidden curricula as they were studying from an institution in their home country. In contrast to our expectations, IA students had the highest average SACQ score, followed by IaD, and IaH students. While most internationalisation research highlights substantial transitional and adjustment issues for international students studying abroad (Mokhothu & Callaghan, 2018; Rienties & Tempelaar, 2013; Ward et al., 1998), our findings indicated that international students in distance contexts – both

located in South Africa (IA) and outside (IaD) – were relatively well adjusted academically and socially, even to a greater degree than home students (-H1, -H2). This provides a further justification for exploring such internationalisation experiences separately, as the adjustment patterns encompassing each appears to be distinct.

At the same time, there were particular nuances between the experiences of students in these three groups in terms of emotional adjustment (-H3) and attachment (-H4), whereby local South African (IaH) students indicated significantly lower personal-emotional adjustment and attachment scores relative to their international peers. One explanation for this could be in the substantially different socio-demographic and educational characteristics of IaD and IA students, outlined in Appendix Table 1. For example, international students located outside of South Africa (IaD) were more likely to speak English as a first language or be studying full-time. Therefore, it is worth considering for future research in other settings how the characteristics and socio-demographic backgrounds of students participating in IaD impact their experiences or motivations.

Our findings related to attachment were perhaps the most surprising, with 86% of participants having a positive attachment towards their university. This figure is much higher than reported in previous studies in face-to-face settings (Mokhothu & Callaghan, 2018; Rienties et al., 2012; Rienties & Tempelaar, 2013; Sennett et al., 2003). Perceived attachment was also highest for IaD students, which is remarkable, given that students did not actually live on campus or even in South Africa. Perhaps one reason for this strong attachment was the opportunities given to participants to study any time anywhere through the distance learning model (Subotzky & Prinsloo, 2011), irrespective of prior qualifications or experience, and its potential for increasing access to higher education. Therefore, these findings open avenues for future research

to consider the opportunities provided through IaD for some students around the world and the important role it might play in their lives.

Further precedence is given to this notion by the surprising findings related to race in our research. In our findings, white students demonstrated significantly lower adjustment across the SACQ scales, compared to black, coloured, or Indian and Asian students. This is in sharp contrast to other SACQ research in South Africa (Petersen et al., 2009; Sennett et al., 2003), where white students seemed to have more favourable adjustment experiences. In part, this could be explained by the historical context of UNISA, which has operated as a mixed race university and provided important pathways to participation in higher education. These findings could also be explained by the fact that the majority of students at UNISA are black, rather than a minority in traditionally white universities in South Africa and around the world.

However, positive adjustment experiences were not always experienced equally for all groups of students in our study, particularly as adjustment was often dependent upon access to technologies. This was the focus of our Hypotheses 5-8, where we found IaD students to have significantly higher access to technology compared to home students in South Africa (IaH). Indeed, most IaD students had access to a computer at home with internet access, while only a third of IaH students had access to such infrastructures. At the same time, our findings indicated that access to technology positively impacted academic (**H5**) and emotional (**H7**) adjustment. Keeping in mind that access to reliable electricity and internet is not always a given in this context (Gunter & Raghuram, 2018; Madge et al., 2015; Venter et al., 2012), our findings raise pressing questions around the role of class and privilege in relation to IaD. These are issues we have raised in prior research in this context (Mittelmeier et al., 2019) and of

certain consideration for future research. For example, future consideration is needed about who benefits from IaD provisions and who is left behind.

5.1 Limitations and conclusions

This study has provided a macro-level analysis of distance education students' experiences while studying at a South African institution and has highlighted suggested areas for future research and theorisation. In doing so, several limitations are recognised. For one, this research utilised self-report measurements and we recognise that more research will be necessary in the future to unpack how these reflective experiences relate to students' affect, behaviour, and cognition. Another obvious limitation was that we did not link the SACQ with academic performance. Unfortunately, we did not receive ethical approval to include these variables, in part related to rightful concerns that our research might highlight that some groups of students are potentially more vulnerable. Furthermore, given the small sample size of IA students we need to be careful not to oversimplify their narratives. Future research will need to expand on this IA group, as these international students actively decided to physically leave their home country to study abroad with a host institution.

Nonetheless, we have provided a better understanding around distance learners' adjustment experiences in a Global South context. Such conclusions provide illumination on this topic for those interested in aspects related to internationalisation of higher education, as well as those in the distance learning sector. In this regard, we have highlighted the varying adjustment experiences between students studying distantly with an institution in their own country versus another country. In addition, this research has expanded theories of internationalisation of higher education, thereby providing an important starting point for conversations around the role that technology plays in encouraging and supporting international and intercultural learning

experiences around the world. We encourage future research on this topic to further develop our understanding of the growing opportunities for students to study internationally while remaining at home.

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6. References

- Badat, S. (2005). South Africa: Distance higher education policies for access, social equity, quality, and social and economic responsiveness in a context of the diversity of provision. *Distance Education*, 26(2), 183-204. doi:10.1080/01587910500168843
- Baker, R. W., & Siryk, B. (1999). *SACQ Student Adaptation to College Questionnaire* (2nd edition ed.). Los Angeles: Western Psychological Services.
- Bunting, I. (2006). The higher education landscape under apartheid. In N. Cloete, P. Maassen, R. Fehnel, T. Moja, T. Gibbon, & H. Perold (Eds.), *Transformation in higher education* (pp. 35-52). Springer: Dordrecht.
- Coe-Meade, L. (2015). *Relationships Among Student Identity Development, Sense of Community, and Academic Adjustment in Community College Distance Learners*. Old Dominion University, (15)
- Colvin, C., & Volet, S. (2014). Scrutinising local students' accounts of positive intercultural interactions: A multidimensional analysis. *International Journal of Intercultural Relations*, 42, 77-92. doi:10.1016/j.ijintrel.2014.06.004
- Credé, M., & Niehorster, S. (2012). Adjustment to College as Measured by the Student Adaptation to College Questionnaire: A Quantitative Review of its Structure

- and Relationships with Correlates and Consequences. *Educational Psychology Review*, 24(1), 133-165. doi:10.1007/s10648-011-9184-5
- Daniels, V. (2017). *The effects of family structure and autonomy-supportive parenting on the adjustment of first year university students*. (PhD Thesis), University of Western Cape
- Department of Higher Education and Training. (2014). Policy for the provision of distance education in South African universities in the context of an integrated post-school system. Retrieved from http://www.saide.org.za/sites/default/files/37811_gon535.pdf
- Forbush, E., & Foucault-Welles, B. (2016). Social media use and adaptation among Chinese students beginning to study in the United States. *International Journal of Intercultural Relations*, 50, 1-12. doi:10.1016/j.ijintrel.2015.10.007
- Geeraert, N., Demoulin, S., & Demes, K. A. (2014). Choose your (international) contacts wisely: A multilevel analysis on the impact of intergroup contact while living abroad. *International Journal of Intercultural Relations*, 38, 86-96. doi:10.1016/j.ijintrel.2013.08.001
- Gemmell, I., & Harrison, R. (2017). A comparison between national and transnational students' access of online learning support materials and experience of technical difficulties on a fully online distance learning master of public health programme. *Open Learning: The Journal of Open, Distance and e-Learning*, 32(1), 66-80. doi:10.1080/02680513.2016.1253463
- Gunter, A., & Raghuram, P. (2018). International study in the global south: linking institutional, staff, student and knowledge mobilities. *Globalisation, Societies and Education*, 16(2), 192-207. doi:10.1080/14767724.2017.1401453

- Halabi, A. K., Essop, A., Carmichael, T., & Steyn, B. (2014). Preliminary evidence of a relationship between the use of online learning and academic performance in a South African first-year university accounting course. *Africa Education Review, 11*(2), 164-182. doi:10.1080/18146627.2014.927148
- Heffernan, T., Morrison, D., Magne, P., Payne, S., & Cotton, D. (2018). Internalising internationalisation: views of internationalisation of the curriculum among non-mobile home students. *Studies in Higher Education, 1*-15. doi:10.1080/03075079.2018.1499716
- Hendrickson, B. (2018). Intercultural connectors: Explaining the influence of extra-curricular activities and tutor programs on international student friendship network development. *International Journal of Intercultural Relations, 63*, 1-16. doi:10.1016/j.ijintrel.2017.11.002
- Hillstock, L. G., & Havice, P. A. (2014). Exploring Characteristics of Retained First-Year Students Enrolled in Non-Proximal Distance Learning Programs. *Journal of College Student Retention: Research, Theory & Practice, 15*(4), 575-603. doi:10.2190/CS.15.4.f
- Institute for Statistics UNESCO. (2018). *International student mobility in tertiary education*.
- Jindal-Snape, D., & Rienties, B. (Eds.). (2016). *Multi-dimensional transitions of international students to higher education*. London: Routledge.
- Jones, E., & de Wit, H. (2012). Globalization of internationalization: Thematic and regional reflections on a traditional concept. *AUDEM: The International Journal of Higher Education and Democracy, 3*(1), 35-54.

- Jordaan, J. (2016). *Exploring first-year students' demands from the perspectives of student support structures: A world café study* (PhD Thesis), North-West University,
- Kizilcec, R. F., Saltarelli, A. J., Reich, J., & Cohen, G. L. (2017). Closing global achievement gaps in MOOCs. *Science*, 355(6322), 251-252. doi:10.1126/science.aag2063
- Knight, J. (2004). Internationalization Remodeled: Definition, Approaches, and Rationales. *Journal of Studies in International Education*, 8(1), 5-31. doi:10.1177/1028315303260832
- Knight, J. (2008). *Higher Education in turmoil: the changing world of internationalization*. Rotterdam, The Netherlands: Sense Publishers.
- Kondakci, Y., Bedenlier, S., & Zawacki-Richter, O. (2018). Social network analysis of international student mobility: uncovering the rise of regional hubs. *Higher Education*, 75(3), 517-535. doi:10.1007/s10734-017-0154-9
- Leask, B. (2004). Internationalisation Outcomes for All Students Using Information and Communication Technologies (ICTs) *Journal of Studies in International Education*, 8(4), 336-351. doi:10.1177/1028315303261778
- Leask, B. (2009). Using formal and informal curricula to improve interactions between home and international students. *Journal of Studies in International Education*, 13(2), 205-221.
- Lee, J. J., & Schoole, C. (2015). Regional, continental, and global mobility to an emerging economy: the case of South Africa. *Higher Education*, 70(5), 827-843. doi:10.1007/s10734-015-9869-7

- Lekena, L. L., & Bayaga, A. (2018). Trend analysis of first year student experience in university. *South African Journal of Higher Education*, 32(2), 157-175. doi:10.20853/32-2-1934
- Madge, C., Breines, M., Beatrice Dalu, M. T., Gunter, A., Mittelmeier, J., Prinsloo, P., & Raghuram, P. (2019). WhatsApp use among African international distance education (IDE) students: transferring, translating and transforming educational experiences. *Learning, Media and Technology*.
- Madge, C., Meek, J., Wellens, J., & Hooley, T. (2009). Facebook, social integration and informal learning at university: 'It is more for socialising and talking to friends about work than for actually doing work'. *Learning, Media and Technology*, 34(2), 141-155. doi:10.1080/17439880902923606
- Madge, C., Raghuram, P., & Noxolo, P. (2015). Conceptualizing international education: From international student to international study. *Progress in Human Geography*, 39(6), 681-701. doi:10.1177/0309132514526442
- McGhie, V. (2017). Entering university studies: Identifying enabling factors for a successful transition from school to university. *Higher Education*, 73(3), 407-422. doi:10.1007/s10734-016-0100-2
- Meier, C. (2007). Enhancing intercultural understanding using e-learning strategies. *South African Journal of Education*, 27(4).
- Mittelmeier, J., Rogaten, J., Long, D., Sachikonye, M., Gunter, A., Prinsloo, P., & Rienties, B. (2019). Understanding the adjustment of first-year distance education students in South Africa: Factors that impact students' experiences. *The International Review of Research in Open and Distributed Learning*.
- Mokhothu, T. M., & Callaghan, C. W. (2018). The management of the international student experience in the South African context : the role of sociocultural

- adaptation and cultural intelligence. *Acta Commercii*, 18(1), 1-11.
doi:10.4102/ac.v18i1.499
- Nulty, D. D. (2008). The adequacy of response rates to online and paper surveys: what can be done? *Assessment & Evaluation in Higher Education*, 33(3), 301-314.
doi:10.1080/02602930701293231
- Olivier, B. (2016). The impact of contact sessions and discussion forums on the academic performance of open distance learning students. *The International Review of Research in Open and Distributed Learning*, 17(6).
doi:10.19173/irrodl.v17i6.2493
- Paik, S. J., Ganley, D. E., Luschei, T. F., Kula, S. M., Witenstein, M. A., Shimogori, Y., & Truong, K. K. (2015). Intercultural exchange among global teachers: The case of the teaching excellence and achievement study abroad program. *International Journal of Intercultural Relations*, 49, 100-113.
doi:10.1016/j.ijintrel.2015.06.011
- Petersen, I. h., Louw, J., & Dumont, K. (2009). Adjustment to university and academic performance among disadvantaged students in South Africa. *Educational Psychology*, 29(1), 99-115. doi:10.1080/01443410802521066
- Ramanau, R. (2016). Internationalization at a Distance:A Study of the Online Management Curriculum. *Journal of Management Education*, 40(5), 545-575.
doi:10.1177/1052562916647984
- Rienties, B., Beusaert, S., Grohnert, T., Niemantsverdriet, S., & Kommers, P. (2012). Understanding academic performance of international students: the role of ethnicity, academic and social integration. *Higher Education*, 63(6), 685-700.
doi:10.1007/s10734-011-9468-1

- Rienties, B., & Nolan, E.-M. (2014). Understanding friendship and learning networks of international and host students using longitudinal Social Network Analysis. *International Journal of Intercultural Relations*, *41*, 165-180. doi:10.1016/j.ijintrel.2013.12.003
- Rienties, B., & Tempelaar, D. T. (2013). The role of cultural dimensions of international and Dutch students on academic and social integration and academic performance in the Netherlands. *International Journal of Intercultural Relations*, *37*(2), 188-201. doi:10.1016/j.ijintrel.2012.11.004
- Rienties, B., Tempelaar, D. T., Van den Bossche, P., Gijssels, W. H., & Segers, M. (2009). The role of academic motivation in Computer-Supported Collaborative Learning. *Computers in Human Behavior*, *25*(6), 1195-1206. doi:10.1016/j.chb.2009.05.012
- Sennett, J., Finchilescu, G., Gibson, K., & Strauss, R. (2003). Adjustment of Black Students at a Historically White South African University. *Educational Psychology*, *23*(1), 107-116. doi:10.1080/01443410303219
- Simpson, O. (2013). *Supporting students for success in online and distance education*. New York, NY: Routledge.
- Sommer, M., & Dumont, K. (2011). Psychosocial factors predicting academic performance of students at a historically disadvantaged university. *South African Journal of Psychology*, *41*(3), 386-395.
- Subotzky, G., & Prinsloo, P. (2011). Turning the tide: A Socio-critical model and framework for improving student success in open distance learning at the University of South Africa. *Distance Education*, *32*(2), 177-193.
- Tait, A. (2018). Open Universities: the next phase. *Asian Association of Open Universities Journal*, *13*(1), 13-23. doi:doi:10.1108/AAOUJ-12-2017-0040

- Tinto, V. (1975). Dropout from Higher Education: A Theoretical Synthesis of Recent Research. *Review of Educational Research*, 45(1), 89-125. doi:10.3102/00346543045001089
- Tinto, V. (1998). Colleges as Communities: Taking Research on Student Persistence Seriously. *The Review of Higher Education*, 21(2), 167-177.
- Venter, P., van Rensburg, M. J., & Davis, A. (2012). Drivers of learning management system use in a South African open and distance learning institution. *Australasian Journal of Educational Technology*, 28(2).
- Volet, S. E., & Jones, C. (2012). Cultural transitions in higher education: Individual adaptation, transformation and engagement. *Advances in Motivation and Achievement*, 17, 241-284. doi:10.1108/S0749-7423(2012)0000017012
- Ward, C., Okura, Y., Kennedy, A., & Kojima, T. (1998). The U-Curve on trial: a longitudinal study of psychological and sociocultural adjustment during Cross-Cultural transition. *International Journal of Intercultural Relations*, 22(3), 277-291. doi:10.1016/s0147-1767(98)00008-x
- Waterval, D. G. J., Frambach, J. M., Driessen, E. W., & Scherpbier, A. J. J. A. (2015). Copy but Not Paste: A Literature Review of Crossborder Curriculum Partnerships. *Journal of Studies in International Education*, 19(1), 65-85. doi:10.1177/1028315314533608

Table 1: Academic and social adjustment across the three internationalisation categories

	South African living in South Africa (IaH)		International Student living in South Africa (IA)		International Student living outside South Africa (IaD)		F-value	Eta	Hypothesis
	M	SD	M	SD	M	SD			
Academic Adjustment	6.29	1.24	6.45	1.24	6.26	1.07	0.383	.001	H1 not supported
Social Adjustment	5.39	1.38	5.61	1.66	5.23	1.55	1.847	.004	H2 not supported
Emotional Adjustment	5.78	1.55	6.22	1.65	6.16	1.63	5.635***	.011	-H3
Attachment	7.32	1.44	7.61	1.17	7.73	1.13	10.730***	.021	-H4
Average SACQ	6.19	1.11	6.47	1.05	6.34	1.02	2.40	.005	

Note: scales were scored on a 1-9 scale, n (IaH) = 276, n (IA) = 29, n (IaD) = 709

* p < 0.05, ** p < .01, *** p < .001

Table 2: Access to technology and study space across the three internationalisation categories

	South African living in South Africa (IaH)		International Student living in South Africa (IA)		International Student living outside South Africa (IaD)		F-value	Eta
	M	SD	M	SD	M	SD		
Access to computer at home	61	49	66	48	80	40	19.482***	.037
Internet access at home	32	47	24	44	59	49	36.834***	.068
Quiet working space at home	42	50	28	46	58	49	14.522***	.028
Mobile access	57	50	55	51	79	41	28.081***	.053
Average Access to technology	48	35	43	31	69	31	47.554***	.086

Note: scales were scored on a 1-9 scale, n (IaH) = 276, n (IA) = 29, n (IaD) = 709
n = 1012; * p < 0.05, ** p < .01, *** p < .001

Table 3: Correlation matrix of access to technology and academic and social adjustment

	1	2	3	4	5	6	7	8
1. Access to computer at home								
2. Internet access at home	.498**							
3. Quiet working space at home	.307**	.379**						
4. Mobile access	.310**	.298**	.339**					
5. Average Access to Technology	.722**	.768**	.719**	.664**				
6. Academic Adjustment	.061	.023	.082**	.061	.078*			
7. Social Adjustment	-.056	-.055	-.106**	-.084**	-.105**	.388**		
8. Emotional Adjustment	.100**	.052	.108**	.051	.108**	.623**	.293**	
9. Attachment	.045	-.011	.023	.017	.024	.579**	.375**	.467**

n = 1012; * p < 0.05, ** p < .01,

Table 4: Regression analyses of 4 SACQ scales (standardised beta coefficients)

	Academic Adjustment	Social Adjustment	Emotional Adjustment	Attachment
South African living in South Africa (IaH)	.031	.099*	-.089*	-.125***
International student living in South Africa (IA)	.038	.046	.014	-.009
Access to Technology	.121***	-.057	.131***	.055
Gender	-.005	-.033	.021	.003
Age	.094**	.137***	.103**	.093**
Coloured	-.091***	-.111***	-.089**	-.109***
Indian or Asian	-.089***	-.069*	-.079**	-.118***
White	-.073*	-.070*	-.072*	-.159***
English as first language	-.025	.004	-.084*	-.046
Full-time student	.052	-.051	-.039	-.020
In part-time work	.051	.047	.063*	.056
Looking after the family/home	.013	-.023	-.008	.011
Other	.024	-.006	.024	.032
Study at level 2	-.027	-.008	-.028	-.057
Study at level 3	-.088*	.009	-.121***	-.094**
Study at Post Graduate	-.148***	-.072*	-.127***	-.130***
Rsq-adj	4%	5%	6%	8%

Benchmark: International students at Distance (IaD), Black, Full-time employment, Level 1 student
n = 983; * p < 0.05, ** p < .01, *** p < .001

Table 5: Regression analyses of academic adjustment (standardised beta coefficients)

	Model 1	Model 2	Model 3
South African living in South Africa (IaH)	-.008	.056	.097***
International student living in South Africa (IA)	.020	.020	.028
Access to Technology	.143***	.062*	.054*
Social adjustment	.393***	.238***	.149***
Personal Emotional adjustment		.550***	.427***
Attachment			.347***
Gender	.008	-.008	-.010
Age	.040	.004	-.003
Coloured	-.047	-.016	.001
Indian or Asian	-.061*	.029	-.003
White	-.046	-.017	.023
English as first language	-.027	.020	.026
Full-time student	.072*	.086***	.083***
In part-time work	.032	.005	-.003
Looking after the family/home	.022	.023	.016
Other	.027	.013	.004
Study at level 2	-.024	-.010	.006
Study at level 3	-.092**	-.024	-.005
Study at Post Graduate	-.120***	-.061*	-.038
Rsq-adj	19%	46%	53%

Benchmark: International students at Distance (IaD), Black, Full-time employment
n = 983; * p < 0.05, ** p < .01, *** p < .001

Appendix Table 1: Basic demographics, ethnicity, occupation, and level of study.

	South African living in South Africa (IaH)		International Student living in South Africa (IA)		International Student living outside South Africa (IaD)		F-value	Eta
	M	SD	M	SD	M	SD		
Gender	0.33	0.47	0.28	0.46	0.48	0.50	11.383***	.022
Age (years)	29.38	7.79	28.07	6.59	35.98	8.47	70.848***	.124
Black (0-1)	0.69	0.46	0.86	0.35	0.81	0.39	8.061***	.016
Coloured (0-1)	0.04	0.21	0.00	0.00	0.05	0.21	0.724	.001
Indian or Asian (0-1)	0.06	0.24	0.00	0.00	0.02	0.15	5.456**	.011
White (0-1)	0.17	0.37	0.11	0.32	0.07	0.26	9.818***	.019
English as first language (0-1)	0.21	0.41	0.24	0.44	0.54	0.50	52.317***	.094
Full-time student (0-1)	0.22	0.42	0.14	0.35	0.11	0.31	10.912***	.021
In part-time work (0-1)	0.09	0.28	0.14	0.35	0.09	0.29	0.41	.001
Looking after the family/home (0-1)	0.05	0.21	0.00	0.00	0.12	0.32	7.119***	.014
Other job role (0-1)	0.21	0.41	0.24	0.44	0.11	0.31	9.94***	.019
Study at level 2 (0-1)	0.18	0.38	0.10	0.31	0.18	0.38	0.577	.001
Study at level 3 (0-1)	0.05	0.23	0.10	0.31	0.34	0.47	47.733***	.086
Study at Post Graduate (0-1)	0.02	0.12	0.00	0.00	0.08	0.27	8.243***	.016

Note: gender (0 = female, 1 = male)

n = 1012; ** p < .01, *** p < .001