

UNIVERSITY OF THE WESTERN CAPE

Title: The relationship between demographic variables, perceived discrimination and perceptions of stress in a sample of African international students at a Historically Disadvantage Institution.

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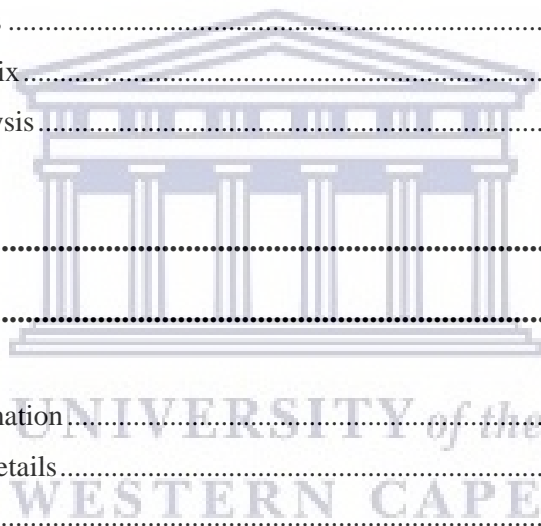
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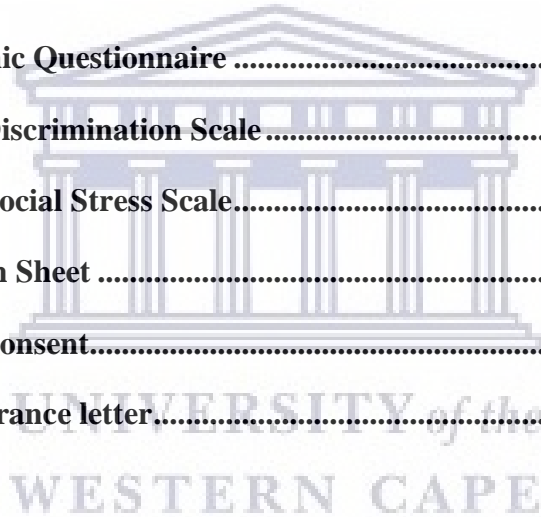
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Declaration

I, Faranha Isaacs (nee Moosajee), hereby declare that the thesis entitled, the relationship between demographic variables, perceived discrimination and perceptions of stress in a sample of African international students at a Historically Disadvantage Institution, is my own work. It has not been submitted before for examination in fulfilment of degree requirements at any university. All sources used and citations were indicated and acknowledged as complete references.

F. Isaacs



28 October 2020

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Abstract

African foreign nationals face many challenges when attempting integration into South African society. Perceived discrimination is one of the major challenges faced by immigrant populations. African international students form a large contingent of the international student population in tertiary education in South Africa. However, no comprehensive profile exists. The present study aimed to establish a comprehensive demographic profile on the African international student population in Community and Health Sciences (CHS) at the University of the Western Cape (UWC), as well as to establish the relationship between demographic variables, perceived discrimination, and perceived stress. The sampling frame comprised of a list of all international students from the African continent who were registered in the CHS faculty. A survey design was adopted and a response rate of 21% was achieved resulting in the final sample of 68. The study utilised the Everyday Discrimination Scale and the Perceived Stress Scale for data collection. Point bi-serial correlations and multiple regressions were conducted to establish the relationships between demographic variables, perceived discrimination, and perceived stress. Ethics clearance was obtained from the Humanities and Social Sciences Research Ethics Committee. All ethics principles were upheld including voluntary participation and informed consent. A key finding was that African international students are not a homogenous group and should therefore not be treated as such. The results found a significant relationship between perceived discrimination and perceived stress. Perceived stress was predicted as a function of perceived discrimination controlling for length of residency in South Africa, age, gender, relationship status and affiliation with community organisations.

Keywords: African international student; South Africa; perceived discrimination; perceived stress; stress theory; acculturative stress

CHAPTER ONE

Introduction

1.1 Background

Foreign nationals are understood as individuals who have migrated voluntarily or involuntarily to South Africa (Palmary, 2018; Smit, 2015). Existing literature consistently identified that foreign nationals face many challenges when attempting to integrate into South African society. Examples of this are xenophobia, barriers to accessing healthcare, employment, discrimination, abuse, inability to access sufficient housing, language difficulties, difficulty in applying for refugee status, and social isolation (Griffin, 2011; Rugunanan & Smit, 2011; Crush & Tawodzera, 2013; Smit & Rugunanan, 2014). Literature also reported detrimental effects on the health and adjustment of those affected (Smit, 2015; Ellison & de Wet, 2016).

International research on immigrant populations has identified perceived discrimination as a major challenge (e.g. Brown & Chu, 2012; Mossakowski & Zhang, 2014). Perceived discrimination has been reported to significantly impact physical health (e.g. Pascoe & Smart Richman, 2009); psychological distress (e.g. Mossakowski & Zhang, 2014); and academic outcomes (e.g. Brown & Chu, 2012) whilst being moderated by the effect of social support (e.g. Liebkind, 2004).

The body of literature on the challenges faced by African migrants and refugees in South Africa reported on African foreign nationals as a homogenous group (Dalton-Greyling, 2008). Dalton-Greyling (2008) identified distinct categories of African foreign nationals such as workers, unaccompanied minors, illegal migrants, refugees, and students. The United Nations Educational, Scientific and Cultural Organization (UNESCO) estimates that about 42000 international students are hosted in South Africa at a tertiary-level (UNESCO, 2016). Furthermore, nine out of the ten top countries of origin for international students in South

Africa were African countries (UNESCO, 2016). The Southern African Development Community region (SADC) reportedly has 26 384 students studying at a tertiary-level institution in South Africa (UNESCO, 2016). Therefore, the SADC region makes up more than half of the total number of international students in South Africa. It is, therefore, important to differentiate the African international student group from African foreign nationals *per se* and other international students in order to provide valuable information on their experiences in higher education. In addition, participation rates and demographic profiles at institutions of higher learning in South Africa are racialised and gendered, which brings about more intersecting dimensions for this subgroup.

1.2 Problem Statement

South Africa is home to a large contingent of international African students mostly from the SADC region at a tertiary level (UNESCO, 2016). Literature reports briefly on the statistics related to country of origin for such students but does not provide comprehensive information about the profile of African international students in relation to the types of tertiary institutions in South Africa (Department of Higher Education and Training, 2015; Gunter & Raghuram, 2018). Furthermore, there is little to no differentiation between African international students and other African migrant populations or samples. Thus, there is a gap in the literature that systematically examines the full profile of African international students at particular institutions of higher learning. The gap further extends to a lack of exploration of how known factors, such as perceived discrimination and perceived stress, are associated with demographic variables in this subgroup of African foreigners, i.e. African international students, that ultimately result in increased perceptions of studies or life as stressful.

1.3 Rationale

The National Development Plan (NDP) 2030 emphasises the need to focus on Africanism and continental countries as partners in growth for higher education (Higher Education South Africa, 2014). Consequently, the University of the Western Cape (UWC) has reiterated this need in the Institutional Operating Plan (IOP) 2016-2020 (UWC, 2016). The university specifically speaks to the need to expand on relationships with international universities, particularly in Africa. These relationships develop by allowing student mobility, including students from within the African continent to study in South Africa at UWC. The present study attempted to provide insight into this subgroup and their experience that, in turn, could enhance retention and throughput.

1.4 Aim of the study

This study had two primary aims:

1. To establish the demographic profile of the African international student population registered in the Community and Health Sciences faculty at UWC.
2. To establish the relationship between demographic variables, perceived discrimination and perceived stress in a sample of African international student population in the Community and Health Sciences faculty at UWC.

1.5 Objectives

In order to address the aims of this research, the following objectives were identified:

1. To compile the demographic profile of the African international student population in the Community and Health Sciences faculty at UWC.
2. To identify the sources for perceived discrimination among the African international student population in the Community and Health Sciences faculty at UWC.

3. To test for associative relationships between demographic variables, perceived discrimination, and perceived stress.
4. To test for predictive relationships between demographic variables, perceived discrimination, and perceived stress.

1.6 Research questions

The present study attempted to answer the following research questions:

1. What is the demographic profile of the African international student population registered in the Community and Health Sciences faculty at UWC?
2. What are the sources of perceived discrimination in a sample of African international student population in a Health Sciences faculty at a South African university?
3. What is the relationship between demographic variables, perceived discrimination, and perceived stress in a sample of African international student population in a Health Sciences faculty at a South African university?

1.7 Theoretical framework: Stress Theory

Stress theory was adopted as the theoretical framework of the present study. Williams et al. (2003) identified that stress theory was successfully adopted as the framework in studies on perceived discrimination, stress, and coping. The theoretical framework informed methodological decisions such as the selection of the population and research setting, the selection of variables, instrumentation, and the relationships tested. This section outlines the foundation of stress theory using seminal references. More recent references illustrating the application of stress theory in research are included in the literature review.

Lazarus and Folkman (1984) posited that stress is based on a relationship between the person and his or her environment. They proposed a model of stress based on the cognitive appraisal of potential threats, such as perceived discrimination, as meeting or exceeding one's

coping resources (Doyle & Molix, 2007). If coping resources are exceeded, adverse health outcomes result (Lazarus & Folkman, 1987). Slavin, Rainer, McCreary and Gowda (1991) expanded the stress model and posited that the stress process for ethnic minorities includes unique stressors such as minority group membership, low socioeconomic status, and experiences of discrimination (Flores et al., 2008).

Acculturation is the process of cultural change when two cultures come into contact with each other for a prolonged period of time (Redfield, Linton, & Herskovitz, 1936; Wood et al., 2019). Psychological changes occur at the individual level as a result of acculturation that, in turn, could result in behavioural and mental health challenges (Berry, Kim, Minde, & Mock, 1987). Acculturative stress results from the process of acculturation which could affect overall health and mental well-being (Berry et al., 1987). The acculturation process has been identified as a stressor that has an effect on psychological distress (Liebkind & Jasinskaha-Lahti, 2000). Perceived discrimination was identified as a contributing factor to acculturative stress in the late 80s already (Berry et al., 1987). High levels of unfair discrimination (perceived or real) contribute to increased levels of acculturative stress that, in turn, impacts the ability of the individual to assimilate, which results in adverse side effects (Harrel, 2000; Kessler et al., 1999; Pereira, 2019; Perez & Arnold-Berkovits, 2018).

Immigrants, refugees, asylum seekers, foreign students, and employees living abroad face various stresses and opportunities that could result in different outcomes on their lives and well-being (Wood et al., 2019). Unfair treatment or discrimination is an important contributing factor to stress in disadvantaged or minority groups, which could result in adverse side effects (Kessler et al., 1999). Acculturation stress is a reaction to the effects of movement and displacement rooted in acculturation on the general well-being of those affected (Berry, 1997). When the two cultures come into contact with each other, conflict may take place (Liebkind & Jasinskaha-Lahti, 2000). The acculturating person might

assimilate by adopting the social and behavioural norms of the majority culture (Berry, 2006). However, if there are greater levels of conflict, for example, the experience of discrimination, the individual might not be able to assimilate easily to the majority culture. These difficulties result in acculturative stress as a result of coping resources being insufficient to overcome this conflict (Berry, 1997; Berry, 2006). It is similar to Lazarus and Folkman's (1984) assertion that stress influences psychosocial outcomes like depression, anxiety, and psychosomatic symptoms.

Berry (2006) used the stress theory of Lazarus and Folkman (1987) to advocate for the examination of acculturative stress processes. Minority groups experience rejection and discrimination due to discriminatory attitudes against their ethnicity that, in turn, affects adaptation and stress levels (Liebkind & Jasinskaja-Lahti, 2000). Harrel (2000) emphasised that migrant populations experience stress due to the added experience of discrimination. Over the last two decades, this finding has consistently been replicated, underscoring the effect of perceived discrimination on overall well-being in immigrant populations (Brown & Chu, 2012; Jasinskaja-Lahti, Liebkind, & Perhoniemi, 2006; Liu & Zhao, 2016; Pereira, 2019).

1.8 Thesis Format

This mini-thesis is written in an extended manuscript format. It is not a Masters by publication. The word count for an extended manuscript is between 10 000 - 20 000 words. The manuscript should provide a coherent account of methodical decisions. There are six core areas covered in the chapters of this thesis manuscript:

- 1. Introduction:** This chapter contextualises the study. It establishes the primary research conundrum and formulates the aim and study objectives of the study. This chapter provides a broad framework for the present study.

2. **Literature review:** In this chapter, an abbreviated review of the body of local and international literature is provided. The aim is to demonstrate familiarity with the body of literature that sufficiently provides an academic rationale for the study.
3. **Methodology:** This chapter reported on the methodological decisions taken. The aim is to provide an account of the conceptualisation and execution of the study. This will enable readers to evaluate the methodological rigour and coherence of the study. It will also ensure that the procedures are clearly documented so that the research is replicable. This chapter also reports on the application of principles of ethics in the study.
4. **Results:** The findings of the study are provided relative to the research questions posed in this chapter. In this instance, the results speak to the demographic profile and the sources of perceived discrimination. The results from tests of associative and predictive relationships between the variables are also presented.
5. **Discussion:** This chapter provides an integrated discussion of the findings in relation to existing literature, as well as methodological decisions. This section begins with an executive summary and thereafter, the discussion of the demographic profile and the associative relationships as core findings. The findings are also discussed in relation to the theoretical framework. In this way, a theoretical formulation of the findings is presented. The final chapter draws appropriate conclusions that are supported by the findings. This section will also include recommendations, limitations, and will discuss the significance of the study.

This thesis was prepared using the APA 6 guidelines and not the newly released APA 7 guidelines.



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CHAPTER TWO

Literature Review

This chapter focuses on reviewing existing literature surrounding perceived discrimination and perceived stress of African immigrant students. As mentioned before, the review is presented to provide the background and academic rationale for the present study.

2.1 Population estimates

There is no consensus on the exact number of African Foreign nationals in South Africa. In 2010, the Forced Migration Studies Programme (FMSP) at the University of Witwatersrand estimated the foreign population in South Africa to be between 1.6 million and 2 million. Long and Crisp (2011) estimated 2 million African migrants and refugees to be in South Africa. In 2012, the population was estimated to be 8 million (StatsSA, 2012). In 2020, the International Organisation of Migration (IOM) reported 4 million international migrants in South Africa (IOM, 2020). South African remains the most significant destination country in Africa (Charman & Piper, 2012). The vulnerable nature of the population and the uncertain legal status of many contributed to the unclear population estimates (Kihato, 2007; Rugunanan & Smit, 2011; Morreira, 2014).

2.2 Demographic Profile

Various demographic variables, such as age, gender, nationality or country of origin, length of residence in the host country, support networks (Flores et al., 2008; Liu & Zhao, 2016), socioeconomic status (Williams et al., 2008), and language fluency (Crush & Tawodzera, 2013; Rugunanan & Smit, 2011), impact the extent of the challenges faced when attempting integration into the host country. Literature suggests that the subgroups have different experiences of discrimination and stress (Gunter & Raghuram, 2018; IOM, 2020).

As mentioned before, African migrants and refugees were treated as a homogenous group in theory, research, and practice (Dalton-Greyling, 2008). For example, the profile of

the group being studied was not immediately certain or identifiable in some of the available research in South Africa (Coate, 2009). Within this marginalised group there are subgroups which include immigrants (legal and illegal), refugees, asylum seekers, foreign students, and employees living abroad. These subgroups each have different legal statuses. African international students have not been differentiated from other African migrant populations or samples. Therefore, it becomes important to study African migrant populations at the subgroup level.

The African international student population, as a subgroup, must be documented and demonstrate appropriate legal status in order to be registered at a tertiary institution.

Therefore, this subgroup is more accessible and establishing population estimates for this cohort is more straightforward. The accessibility of this population allows for a demographic profile to be established.

2.2.1 Legal status

A visitor visa prohibits individuals of foreign birth from studying or working in South Africa. In order to be an international student in South Africa, you must possess a study visa and appropriate permits for either permanent or temporary residence.

Permanent residence. Individuals who wish to permanently reside in South Africa have to apply for permits based on length of residency in South Africa while using a Work Visa, Business Visa, Spouse Visa, or Relative Visa (Department of Home Affairs, 2020). This also applies to individuals who qualify as refugees in terms of Section 27(c) of the Refugees Act, Act No. 130 of 1998 and individuals who qualify as asylum seekers in terms of Section 13 of the Immigration Act, Act No. 13 of 2002. The benefit of applying for a spousal, relative, business, or work permit is that it allows you to study in South Africa while waiting for your permanent residence permit to be granted. However, under the Refugees

Act, Act No 130 of 1998, an individual who has been granted refugee status is entitled to work, study, and be a beneficiary of all social services.

Temporary residence. A foreign national may temporarily reside in South Africa whilst registered at a primary, secondary, or tertiary institution. An individual could apply for a Work Visa subject to meeting the requirements for a General Work Visa, Critical Skills Work Visa, and the Intra-company Transfer Visa. A Business Visa allows a foreign national to reside in South Africa and establish or invest in a business. The Work Visa and Business Visa does not allow individuals to study unless a special endorsement has been applied for and received by the individual. A Spouse Visa or Relative Visa allows a foreign national to reside in South Africa with a South African citizen or permanent resident wife or husband, adopted or biological parents and children. These visas are not permanent but do allow you to study if you apply for working rights on your visa (Department of Home Affairs, 2020).

The literature reporting on African migrant populations does not differentiate the legal status and visa types. Thus, there is a need to establish how legal status forms another level of intersectionality. The vulnerability and risks associated with a lack of legal status or appropriate visas are a real concern and would reduce the feasibility of systematically studying subgroups. Legal status remains an area for further exploration and ethics consideration.

2.3 International Students in Higher Education

International students offer financial, educational and cultural contributions to their host country (Altbach, 1989). Students are classified as “international” if they left their country of origin and moved to another country to study. Students are classified as “foreign” if they are not citizens of the country in which they are studying.

Altbach (1989) reported that international higher education is in demand globally because it has been touted as strengthening international diplomacy as well as contributing to

the economic and intellectual capital of the host country. Over the past three decades, the number of international students has increased fivefold from 0.8 million worldwide in 1975 to 4.1 million in 2010 (OECD, 2020). The global increase in the number of international students also reflects the overall increase in tertiary enrolment. In 2017, there were over 5.3 million international students, up from 2 million in 2000 (UNESCO, 2019). This represents an average annual growth rate of 7.1%. In short, the number of internationally mobile students are increasing and destinations are diversifying.

South Africa provides an interesting context as a main regional hub for international students (Gunter & Raghuram, 2018; Lee, 2017; UNESCO, 2016). The shift from racist policies during apartheid has allowed it to consolidate and alter its Higher Education provision and become a centre for educational mobility in Africa. African international students temporarily move to South Africa to build on their higher education qualifications due to the lack of desirable higher education programmes in their country of origin (Iwara, Kativhu, & Obadire, 2017). The SADC region has mobility agreements in place that establish lower costs for international students within the region (Gunter & Raghuram, 2018). This allows for the development of a regional academic community able to address regional challenges. South Africa has a reach further than this as it provides higher education opportunities to the whole of Africa (Lee, 2017). The South African Higher Education sector has a goal to attract foreign students from the region and reserves 5% of university placements for students from the SADC region (DHET, 2013).

International students from Africa face many challenges such as homesickness, language differences, and socio-cultural differences when attempting to integrate (Iwara et al, 2017; Lee, 2017). The assumption is that students from neighbouring countries would experience fewer challenges than those from further abroad due to their familiarity with the culture. Lee (2017) studied international students in South Africa and found that race was not

the sole determinant of discrimination but rather the nationality of the student was the main reason for perceived discrimination. One of the reasons given was that Africans from the SADC region were seen as a greater threat to locals when competing for jobs. Therefore, it becomes important to continue studying the challenges experienced by this subgroup and the mechanisms underlying it.

2.3.1 The South African Higher Education System

During apartheid, the higher education system in South Africa was clearly defined by race and language (Gunter & Raghuram, 2018). For example, six centrally managed universities were established of which four were for “Africans,” one for “Indians”, and one for “Coloureds” as per the racial classification system. A further four universities were established in the former independent homelands for African students. Thus, participation in higher education was racialised with limited opportunities for minority students. Despite this, South Africa was still seen as a regional educational hub attracting many notable African international students to its “homeland” universities (Gunter & Raghuram, 2018). The end of apartheid heralded a huge influx of foreign students (Fongwa, 2010). Higher education in post-apartheid South Africa attempted to achieve equality and fell short with the historically disadvantaged universities receiving less investment (Fongwa, 2010; Gunter & Raghuram, 2018). Historically disadvantaged universities (HDI) face unique challenges from historically advantaged universities such as insufficient funding and infrastructure to support the needs of the students (DHET, 2013). The profile of students enrolled at institutions remains patterned in terms of race, gender, and socio-economic status (Hoffman & Julie, 2012). For example, the majority of the student population at UWC are “Black” and “Coloured” students (DHET, 2015). As such, the pattern of enrolment of local students also differs by institution.

The increase of international students in South Africa is concentrated in previous “white-only” universities who are well funded with greater infrastructure and perceived staff

excellence due to the historical legacy of apartheid (Gunter & Raghuram, 2018). African international students typically move to South Africa to upgrade their educational qualifications (Marschall, 2017). For this subgroup of international students, issues of affordability are of paramount importance and they would migrate to HDIs (Lee, 2017). What emerges clearly is that the profiles of local and international students at institutions are patterned and that variation makes analysis at an institutional level important.

The profiles and experiences of students within different faculties at the same institution may also vary significantly (Lee, 2017). Gunter and Raghuram (2018) stated that the motivations of international students to pursue studies in specific faculties are very specific and could become a source of variance in and of itself. Thus, there is merit in narrowing the unit of analysis from the level of institution even further to the level of faculties.

The profiles of student enrolment also reflect historical biases where marginalised identities based on race, ethnicity, gender, sexuality, and socio-economic status were subject to discriminatory admission practices (Slavin et al., 1991). This results in patterned profiles in which HDIs typically have more students belonging to marginalized groups and reportedly have more African Foreign students. This patterned composition of the profiles may translate into particular experiences and identifications linked to ethnic minority status (Hoffman & Julie, 2012). Thus, it is imperative to explore the psychology of ethnic minorities, such as the African international student population and their experiences within South African universities. Flores, et al. (2008) identified perceived discrimination as an important psychological construct to examine in the experiences of African international student populations.

2.4 Perceived Discrimination

Perceived discrimination is a psychosocial stressor based on the subjective experience of being unfairly treated in everyday life as a result of the perceived or actual membership to groups (Dion, 2002). Perceived discrimination can have negative health outcomes on both the physical and mental well-being of the individuals who experience it (Pascoe & Smart-Richman, 2009). Furthermore, perceived discrimination has been empirically shown to impact perceptions of stress (Everett, Onge, & Mollborn, 2016; Kaduvettoor-Davidson & Inman, 2013). Perception of stress has been identified as an important indicator of general well-being as early as the eighties (Cohen, Kamarck, & Mermelstein, 1983; Lazarus, 1990). Below is an exposition of the extant body of literature reporting on perceived discrimination.

2.4.1 International research

The literature on minority groups indicates that discrimination has an effect on various aspects of psychological well-being (Carter, 2007; Gomez, Miranda & Polanco, 2011). Williams and Mohammed (2009) provided a review of the empirical research on perceived discrimination and found an inverse association between perceived discrimination and health. Pascoe and Smart Richman (2009) conducted a meta-analytic review of the effects of perceived discrimination on mental and physical health. This review found that perceived discrimination has significant effects on negative physical and mental health outcomes and that it produces a high stress response. Similarly, Schmitt, Branscombe, Postmes, and Garcia (2014) conducted a meta-analytic review on stress and psychological well-being. These authors reported that unemployment, educational settings, and inadequate healthcare resulted in heightened stress that, in turn, affected psychological well-being. Studies conducted specifically on immigrant populations found that perceived discrimination negatively affected the psychological well-being of immigrants (Gomez et al., 2011; Mesch, Turjeman, & Fishman, 2007; Liu & Zhao, 2016).

Perceived discrimination has also been found to predict the psychological well-being of different immigrant groups (Jasinskaja-Lahti et al., 2006; Sevillano, Basabe, Bobowik & Aierdi, 2013). Other studies propose that the effects of perceived discrimination vary across subpopulations such as gender, ethnicity, and age (Everett et al., 2016). Therefore, further examination of the relationship between demographic variables and perceived discrimination is recommended.

2.4.2 South African research

Using data collected in the national South African Stress and Health Survey (SASH), research shows that perceived discrimination acted independently of demographic factors to negatively affect mental health (Williams et al., 2008). It has also been found that perceived discrimination increases the risk of psychiatric disorders (Moomal et al., 2009) and adversely affects self-esteem and mastery (Williams et al., 2012).

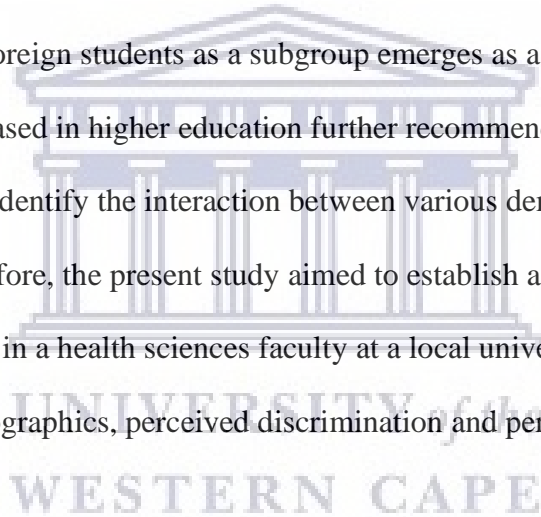
2.4.3 Perceived discrimination and perceived stress

Stress is an indication of general well-being, which involves an interaction between the person and his or her environment (Cohen et al., 1983; Lazarus & Folkman, 1987; Lazarus, 1990). Discrimination is generally viewed as a major stressor (Kessler et al., 1999). In line with this, Williams, Jackson and Anderson (1997) posited that stress impacts the health of minority populations adversely. Research by Everett et al. (2016) examined the relationship between perceived discrimination and perceived stress as a mental health outcome. These researchers found that an increase in perceived discrimination resulted in an increase in perceived stress. Similarly, other studies found perceived discrimination and perceived stress to be significantly associated (Kaduvettoor-Davidson & Inman, 2013; Su et al., 2013). Various authors found that perceived discrimination should be distinguished from perceived stress due to the chronic nature of the stressor (Flores et al., 2008; Palmary, 2018).

These researchers further recommended the study of perceived discrimination and perceived stress when assessing health.

2.5 Summary

A clear body of literature exists on the experience of migrant populations. The following criticisms are consistently raised against the body of literature: 1) the population remains undifferentiated; 2) African foreign students is an under-investigated subgroup in South Africa's unique position as a key hub for educational mobility in Africa and; 3) perceived discrimination has not been systematically evaluated in this subgroup. Research on this population remains exploratory with poorly defined methodological elements. Thus, the need to examine African foreign students as a subgroup emerges as a gap in the literature. The literature on studies based in higher education further recommended analysis or research at an institutional level to identify the interaction between various demographic and institutional factors. Therefore, the present study aimed to establish a profile of the African foreign student population in a health sciences faculty at a local university and to examine the relationship between demographics, perceived discrimination and perceived stress in this population.



CHAPTER THREE

Methodology

3.1 Aims of the Study

1. To establish the demographic profile of the African international student population registered in the Community and Health Sciences faculty at the University of the Western Cape.
2. To establish the relationship between demographic variables, perceived discrimination and perceived stress in a sample of African international student population in the Community and Health Sciences faculty at the University of the Western Cape.

3.2 Objectives

1. To compile the demographic profile of the African international student population in the Community and Health Sciences faculty at UWC.
2. To identify the sources for perceived discrimination among the African international student population in the Community and Health Sciences faculty at UWC.
3. To empirically test for associative relationships between demographic variables, perceived discrimination, and perceived stress.
4. To empirically test for predictive relationships between demographic variables, perceived discrimination, and perceived stress.

3.3 Research Questions

1. What is the demographic profile of the African international student population registered in the Community and Health Sciences faculty at UWC?

2. What are the sources of perceived discrimination in a sample of African international student population in a Health Sciences faculty at a South African university?
3. What are the relationships between demographic variables, perceived discrimination, and perceived stress in a sample of African international student population in a Health Sciences faculty at a South African university?

3.4 Research Setting

The setting for the present study was the Faculty of Community and Health Sciences (CHS) at UWC. The university is located in the Western Cape province of South Africa. The university, as a previously disadvantaged institution in South Africa, prioritises access and equity in higher education (UWC, 2016). Mdepa and Tshiwula (2012) identified that historically disadvantaged universities (HDUs) came about as a vehicle for racial segregation enforced by the apartheid regime. HDU's were designed to provide education to underprivileged students from rural areas (Higher Education South Africa, 2014). UWC was selected as the research setting because it was the only HDU that did not merge with another institution post-apartheid (Council on Higher Education, 2014). UWC was classified as a research-led institution (UWC, 2016). The institution thus competes with historically advantaged institutions at the level of a research-led institution despite continued resource constriction (Hoffman & Julie, 2012).

As the identified university, UWC has been recognised as a regional crossroads in southern Africa for higher education. UWC has an extensive network of partnerships with 65 countries. It has seen an increasing number of international students from southern Africa and the African continent as a whole which highlights the need for this type of research in this research setting (UWC Annual Report, 2016). In higher education in South Africa, there is a push towards a regional focus with an intention to build partnerships with universities in Africa, as well as to promote Africanism (African Union Commission, 2015). The IOP

(2016-2020) of UWC speaks to the need to further the university as a regional and continental resource by focusing on partnerships with research organisations and universities on the African continent (UWC, 2016). This will mean further exchange programmes with African universities and the strengthening of relationships with African scholars. UWC emphasises student mobility by collaborating with other countries on the continent. Therefore, it becomes necessary to explore the experiences of African international student populations when studying at UWC.

On average between 15 000 to 20 000 students are enrolled at UWC in any given year (DHET, 2015). The majority of the population registered at this institution includes “Black” and “Coloured” students (DHET, 2015; Training, 2012). Hoffman and Julie (2012) reported that the socio-demographic profile of students at historically disadvantaged universities presents unique challenges.

The CHS faculty is one of seven faculties at UWC. The faculty includes programmes offered in Dietetics and Nutrition, Natural Medicine, Nursing, Occupational Therapy, Physiotherapy, Psychology, Public Health, Social Work, Sport Recreation, and Exercise Science (Faculty of Community and Health Sciences, 2018). CHS is committed to the advancement of the current Health and Welfare Services in South Africa through the process of transformation in the training and education it offers. It aims to develop a collaborative network with the broader community (Faculty of Community and Health Sciences, 2018; “UWC”, 2019). An analysis of the 2016 enrolment figures showed that the CHS faculty had a headcount of 2852 students that makes up about 15% of the student population at UWC (UWC Annual Report, 2016). The CHS faculty at the University has been sought out by African foreign students for postgraduate studies for the continuation of or upgrading of educational qualifications in the helping professions (UWC Annual Report, 2018). For this reason, the CHS faculty was the focus of the research setting.

3.5 Target Group

The study aimed to investigate the African international student population registered in the Faculty of Community and Health Sciences at UWC. African international students would refer to international students whose country of origin would be on the African continent. It does not refer to ethnicity and should not be assumed to refer to Black African students. It is important to study the identified population, as there is a regional focus on Africanism in higher education. The population for the study included all students who met the following inclusion criteria: 1) International students from the African continent, and 2) registered in a CHS programme for the 2017 academic year.

3.6 Sampling

The study used probability sampling within which each participant that met the inclusion criteria had an equal chance of being selected to participate in the study (Bhattacharjee, 2012). Probability sampling is a requirement for correlational and regression analysis (Mitchell & Jolley, 2010). It allows the results of the study to be generalised to the total population of international students from the African continent in the CHS faculty (De Vaus, 2002). Total population sampling was used to recruit participants from the sampling frame for this study (Bryman, 2012). Thus, every single person on the list was invited to participate in the study.

The sampling frame comprised of African international students registered in a CHS programme at UWC for the 2017 academic year. The sampling frame was compiled by requesting a list of students who meet the inclusion criteria from the Faculty of Community and Health Sciences. A total of 319 students met the inclusion criteria and comprised the sampling frame for the present study. The final sample consisted of 68 participants. The process of recruitment that resulted in the final sample will be discussed under the section on response rates.

3.7 Design

The study adopted a cross-sectional survey design. Survey research is a method involving standardised questionnaires or interviews to collect data about people and their preferences, thoughts, and behaviours in a systematic manner (Dillman, 2007; Mitchell & Jolley, 2010).

Surveys provide a cross-sectional impression of the constructs measured and therefore cannot necessarily make causal inferences or establish temporal order (Bhattacharjee, 2012; Fowler, 2009). For the purpose of this study, temporal order was inferred from previous literature that provided evidence of perceived discrimination resulting in perceived stress (Sam & Berry, 2018). That is, that perceived discrimination occurs before perceived stress. Thus, temporal order was inferred from the empirical evidence that perceived discrimination preceded perceived stress. However, the criteria for causality was not met.

The survey was administered online. An online survey was considered appropriate as registered students would have access to their university email addresses and were able to access the internet through the campus Wi-Fi. Additionally, participants were able to access the survey at a time suitable to their schedules. This resulted in ease of administration and cost-saving consistent with the recommendation from Fricker and Schonlau (2002).

Evans and Mathur (2005) identified potential weaknesses in online surveys. For instance, participants may perceive the survey to be junk mail, there may be the risk of unauthorised access to the survey, instructions with regards to answering the online survey may be unclear, response bias, and low response rates may occur. All these factors were taken into consideration in the selection and application of the design to the present study. The email invitation was sent from an official UWC email address to avoid it being perceived as junk mail. Unauthorised access to the survey was pre-empted by embedding the link in the

email invitation which allowed a participant to only respond once to the survey (De Vaus, 2002). Response bias is a weakness in all forms of survey but has been shown to have less of an effect in online surveys due to the privacy afforded to the participant (Fowler, 2009; Mitchell & Jolley, 2010).

3.7.1 Response rates

There is no consensus about what constitutes an acceptable response rate for surveys (Babbie, 2011). Deutskens, Ruyter, Wetzels, and Oosterveld (2004) reported that response rates ranged between 20% and 47%, and average at 33%. These authors further argued that these response rates were consistent with other modes of administration. Babbie (2007) reported that online surveys typically achieve lower response rates than paper administrations. The response rates of any survey can be increased through follow-ups, incentives such as vouchers, lotteries, or donations as well as length and presentation of the questionnaire (De Vaus, 2002; Deutskens et al., 2004).

In order to increase the response rate for this study, upon completion of the survey participants were entered into a lottery for an Amazon Kindle. The embedded functions of the Survey Monkey website made it possible to send follow-up reminder emails to participants who did not complete the survey, and it further allowed for the use of multiple mailings to those who had not responded yet.

The survey was sent to the researcher and the supervisor on the 14th of September 2017 to test the functions and accuracy of the survey. The survey went live on the 9th of November 2017. The first invitation was sent to 319 participants and produced 23 responses. The host website has the function to identify participants who have not completed the survey and resend the invitation until a sufficient response rate was achieved. Following the initial email invitation, a reminder was sent on 15 November 2017 to 296 participants which

resulted in a further response from 15 participants. A second reminder email was sent on 17 November 2017 to 281 participants which resulted in 16 additional responses. Further reminders were sent on 23 and 27 November 2017 which resulted in 16 additional responses. The final general email reminders were sent on 14 and 18 December 2017 which provided an additional 16 responses. No further reminders were sent after this date because final exam results had been released and there were no further increases in responses anticipated. These email reminders resulted in the initial number of responses increasing from 23 students to a final response of 86 students. The 86 participants made up 27% of the total sampling frame. Thus, the final response rate of the study fell within the expected response rate reported by Deutskens et al. (2004). Of the 86 responses, 22 surveys were incomplete. Thus, the final sample consisted of 68 participants.

3.8 Instruments

Three questionnaires were used to measure the identified study variables. Below is a brief outline of each instrument.

3.8.1 Demographic questionnaire

The demographic questionnaire was self-constructed and included variables identified from the available literature on international student populations as being correlated with perceived stress or perceived discrimination. Research has identified specific demographic variables as important in assessing perceived discrimination and perceived stress (Liebkind & Jasinskaja-Lahti, 2000; Palmary, 2018; Sam & Berry, 2018). Age, gender, relationship status, affiliation with any community-based organisation (e.g. church group or student organisations), and length of residency in South Africa were identified for inclusion in the questionnaire. Relationship status and affiliation with any community-based organisations were chosen based on the underlying assumption that it would speak to the social support of

participants. Social support was identified as a key predictor of perceived discrimination (Fernández, Silván-Ferrero, Molero, Gaviria & García-Ael, 2014; Kessler et al., 1999).

Additional demographic variables were included based on relevance to establishing a profile of the target group. Those variables included the country of origin, course of study, financial details, and visa type. The demographic questionnaire produced categorical data. Items were revised based on consultation with the supervisor and the final version of the questionnaire is shown in Appendix A.

3.8.2 The Everyday Discrimination Scale

The Everyday Discrimination Scale (Williams et al., 1997) consists of nine questions on perceived discrimination and the reason the participant attributes to the discrimination (Appendix B). Krieger, Smith, Naishadham, Hartman, and Barbeau (2005) found the scale possessed high scale reliability and validity. The scale has been used in South Africa with good psychometric properties reported (Moomal et al., 2009; Williams et al., 2008). The items are scored on a Likert scale from 0 (*Almost every day*) to 5 (*Never*). A lower score was an indication of more perceived discrimination being experienced. In the present study, the scale was reverse coded for analysis for ease of interpretation. That means that higher everyday discrimination scores indicated that more perceived discrimination was experienced. The scale has a sufficiently high Cronbach's Alpha of 0.77 (Sternthl, Slopen, & Williams, 2011).

3.8.3 The Perceived Stress Scale [PSS]

The Perceived Stress Scale (Cohen et al., 1983) is a fourteen-item, Likert-type measure developed to ascertain the degree to which life is perceived to be stressful (Appendix C). Higher scores indicate higher overall perceptions of life as stressful, with each item rated from 0 (*Never*) to 4 (*Very Often*). Items 4, 5, 6, 7, 9, 10, and 13 were scored in the

reverse direction (Boyle, 2014). The Cronbach's Alphas for the PSS range was 0.86 in international samples and 0.72 in a South African sample (Magalhaes Das Neves, Loots, & van Niekerk, 2014). Given the selected population, language and cultural relevance were not expected to be problematic.

3.9 Procedure

The survey was hosted by the Survey Monkey website because the features of the program allowed the data to be collected and collated in a cost-effective and timely manner. Invitations to participate were sent through the Survey Monkey website to university email addresses provided by the CHS faculty. The emails included a description of the study and a link to participate in the study. The use of university email addresses has an inherent risk in that not all students use this as their preferred email address. Additionally, they might not regularly check this address and that might lead to them not engaging with the invitation. A trial run was undertaken to ensure that the questionnaire could be easily accessed on different browsers and from various email service providers. This reduced the challenge of non-response due to the poor look and feel of the survey on the electronic device. The process regarding reminder mailings was discussed in the section on response rates. Following this, the survey was closed and the data exported to the Statistical Package for the Social Sciences (SPSS) version 25 for analysis.

3.10 Data Analysis

3.10.1 Descriptive statistics

Descriptive statistics in the form of frequency distributions were used to compile the demographic profile of the participants (Clark-Carter, 2004). It provided a summary of the sample in terms of the constructs measured. Ranked scores were used to report on the perceived sources of discrimination using frequencies.

3.10.2 Inferential statistics

Inferential statistics were used to test associative and predictive relationships between the identified demographic variables and perceived discrimination and perceived stress. The sample size was sufficient for inferential statistics as it exceeded 50 participants. Field (2015) argued that when N is equal to 50, the t- and z- distributions become identical which supports the use of inferential statistics. The sample size was further considered in the analysis using threshold criteria to ensure that the data supported the analysis.

3.10.3 Coding of variables

The demographic questionnaire produced categorical variables that had to be re-coded for the purpose of the correlation and regression analysis (De Vaus, 2002). Demographic variables, age, gender, relationship status, affiliation with community organisation and length of residency were coded into categories. Age was coded into three categories (1= 18-21 years; 2= 22-25 years; 3= above 25 years). Gender was coded into two categories (1= male; 2= female). Relationship status was categorised as single, which was comprised of single and divorced (1), and in a relationship, which was comprised of married and in a long-term relationship (2). Affiliation with a community organisation was coded into two categories (0= no; 1= yes) and length of residence was coded into three categories (1= less than a year; 2= 1-4 years; 3= over 5 years). The type of data further informed the data analysis.

3.10.4 Assumptions

The data collected met all the assumptions necessary to conduct the inferential statistics. Independence of observations was confirmed with the Durbin-Watson score of 1.64. Linearity was met by observing the partial regression plots. Homoscedasticity was confirmed through the graph. The assumption of multicollinearity was satisfied as all correlations were less than 0.7 which was lower than the tolerance threshold of 0.1. Similarly, the VIF did not exceed 10. There were no outliers and the high leverage points resulting from

incomplete surveys were addressed by the removal of missing cases. Analysis showed that the assumption of normality was met. Thus, the data set satisfied all the assumptions and supported the ensuing data analysis.

3.10.5 Correlation matrix

A point-biserial correlation was utilised to test for significant associations between demographic variables and perceived discrimination, and then between demographic variables and perceived stress. This correlation technique was chosen because it tests the associative relationship between a continuous variable (e.g. perceived discrimination or perceived stress) and a dichotomous variable (e.g. gender, relationship status, and community affiliation) (Mitchell & Jolley, 2010).

A Pearson correlation coefficient was utilised to test the associative relationship between perceived discrimination and perceived stress because it measures the degree and direction of the linear relationship between two continuous variables (Howell, 2012). The correlation indices assess shared variance between variables which would identify potential covariates that might need to be controlled for in the ensuing regression analyses.

Demographic variables that were significantly associated with perceived stress or perceived discrimination were considered for inclusion in the subsequent regression analyses. However, key demographic variables, identified in the available literature to sufficiently predict perceived stress, were included in the multiple regression analysis regardless of the p-value of their correlations (Flores et al., 2008; Schmitt et al., 2014).

3.10.6 Regression analysis

Categorical data poses a risk in regression analysis of reducing power or washing out of an effect (Field, 2015). The general linear model (GLM), a non-parametric equivalent to regression, can counter the risks associated with categorical data (Howell, 2012) GLM is a

useful framework due to its flexibility in using categorical or continuous variables in relation to a single outcome variable (Field, 2015). Three regression models were tested using the GLM.

The first model assessed the predictive relationship between demographic variables and perceived discrimination. This model was based on the empirical findings in the literature supporting significant relationships between demographics and perceived discrimination. Model Two was a simple linear regression analysis. The second model tested the predictive relationship between perceived discrimination and perceived stress. This model was based on the theoretical supposition from the literature that perceived discrimination results in perceived stress.

A multiple regression analysis was utilised for the third model. Multiple regression allows the predictors to compete and identify the unique contributions of each variable (Aron, Arons & Coups, 2009; Tredoux, Pretorius & Steele, 2006). The number of predictors used in the model was determined by the final sample size (Clark-Carter, 2004). The final sample size of 68 participants allowed for a maximum of six predictors based on the recommendation of a minimum of 10 participants per predictor variable (Bhattacharjee, 2012). This model included perceived discrimination and demographic variables age, gender, relationship status, affiliation with a community organisation, and length of residency as predictors. The purpose was to identify whether this model significantly explained variation on perceived stress. The six predictor variables included were 1) age, 2) gender, 3) relationship status, 4) affiliation with any community-based organisation, 5) length of residency in South Africa, and 6) perceived discrimination. These were regressed onto perceived stress as the outcome variable and tested for significance.

3.11 Ethics

Ethics clearance and project registration were obtained from the Humanities and Social Sciences Research Ethics Committee (HS 17/15/17) of UWC (Appendix D). Permission to conduct the study at UWC was requested from and given by the Office of the Registrar (Appendix E). Access to information pertaining to the target group was requested from the Faculty of Community and Health Sciences. An information sheet was prepared that included a brief background of the study and formed part of the email invitation and survey introduction page on Survey Monkey (Appendix F). The information sheet summarised the rights of the participants, aims of the study, as well as contact persons in the event recourse was sought. Participants consented to participate in the study by clicking on a link before the survey could be accessed.

The Survey Monkey website allowed follow-up emails to be sent without the researcher accessing the specific email address and this ensured the protection of the anonymity of responses and privacy of participants. Participants were assured that they could exit the study at any time without explanation and without repercussions such as loss of perceived benefits. The study touched on perceived discrimination and perceived stress, which may have resulted in negative emotions, thoughts, and feelings being brought to the fore. Participants were provided with the contact details of the researcher and supervisor if they required assistance related to emotional reactions or sequelae in response to the completion of the survey. However, no participants indicated that they were emotionally dysregulated.

CHAPTER FOUR

Results

In this chapter, the results of the study are presented. The chapter is organised around the research questions and objectives of the study. The results have been tabularised and are presented relative to a 0.05 alpha level.

4.1 Demographic Profile

The demographic profile is presented in a staggered manner. The complete list of demographic information captured on this sample was divided into five sections, namely identifying information, course or study details, financial details, family and support, and legal status. Each section included a table that summarises the characteristics of that subsection. It is important to note that the categorisation here was not based on an inherent theoretical foundation, but rather on cogent reporting.

4.1.1 Identifying information

This category included age, gender, and country of origin as core variables. Table 1 below summarises the profile of sample data for this category. The sample consisted of 38 males and 30 females. Thus, the sample of 68 African international students included a fairly even gender split. The majority of participants were students over 25 years of age (85.3%). More participants were from Zimbabwe (17.6%), Nigeria (13.2%), and Kenya (13.2%) than any other African countries.

Table 1
Identifying information (N=68)

		Frequency	Percent
Age	18-21 years	6	8.8
	22-25 years	4	5.9
	above 25 years	58	85.3
Gender	Female	30	44.1
	Male	38	55.9
Country of origin	Burundi	3	4.4
	Cameroon	6	8.8
	DRC Congo	4	5.9
	Ethiopia	2	2.9
	Gambia	1	1.5
	Ghana	2	2.9
	Kenya	9	13.2
	Libya	1	1.5
	Malawi	1	1.5
	Namibia	3	4.4
	Nigeria	9	13.2
	Rwanda	4	5.9
	Sudan	2	2.9
	Swaziland	1	1.5
	Tanzania	3	4.4
	Uganda	2	2.9
	Zambia	3	4.4
Zimbabwe	12	17.6	

4.1.2 Course or study details

This category included level of study (e.g. undergraduate or postgraduate study), year of study at UWC, highest qualification, and South African Qualifications Authority (SAQA) accreditation. Table 2 below summarises the profile of sample data for this category.

Table 2
Course or study details (N=68)

Course of study at the University		Frequency (f)	Percent (%)
<i>Undergraduate</i>	Bachelor of Science	1	1.5
	Dietetics	1	1.5
	Occupational Therapy	4	5.9
	Nursing	20	29.4
	Social Work	4	5.9
	Pharmacy	2	2.9
	No program specified	4	5.9
<i>Postgraduate</i>	Advance Midwifery	1	1.5
	Child and Family Studies	3	4.4
	Dentistry and Public Health	1	1.5
	Nutrition	1	1.5
	Physiotherapy	11	16.2
	Public Health	14	20.6
<i>PhD</i>	No program specified	1	1.5
	Total	68	100
Year of study at UWC	First year	17	25.0
	Second year	21	30.9
	Third year	11	16.2
	Fourth year and above	16	23.5
	Completed	3	2.9
	Total	68	100.0
Current highest qualification	Matric	3	4.4
	Undergraduate	26	38.2
	Postgraduate	39	57.4
	Total	68	100.0
University qualification accredited by the South African Qualifications Authority	Yes	65	95.6
	N/A	3	4.4
	Total	68	100.0

From Table 2 above it becomes evident that the sample was fairly evenly split between undergraduate and postgraduate studies and also across the range of disciplines in the CHS faculty. The majority of participants in undergraduate courses were studying

Nursing (29.4%), whereas in postgraduate programmes there were more participants studying in Physiotherapy (16.2%) and Public Health (20.6%). The year of study at UWC is an indication of the time the participant has been a student at the institution. The sample data showed that participants were more likely to be in their first (25%) or second year (30.9%) of study at UWC, with only 2.9% of participants having just completed their undergraduate studies. More than half of the sample had a postgraduate degree as their current highest qualification (57.4%). A clear majority of participants (95.6%) reported that their qualifications were accredited by the South African Qualifications Authority (SAQA). The remaining three participants (4.4%) reported that their current highest qualification was a matriculation certificate that did not need accreditation from SAQA as it was issued by a local authority i.e. they completed High School in South Africa.

4.1.3 Financial details

This category included information about how studies were funded. Table 3 below summarises the profile or sample data for this category.

Table 3.
Financial details (N=68)

		Frequency (<i>f</i>)	Percent (%)
How studies are funded	Sponsor	6	8.8
	Bursar	5	7.4
	Private	57	83.8
	Total	68	100.0
Income or financial support	Part-time work	12	17.6
	Full-time work	18	26.5
	Bursary or scholarship	7	10.3
	Personal	31	45.6
	Total	68	100.0

Table 3 above indicates that the majority of participants (83.8%) reportedly funded their studies privately. Self-funding took on the form of part-time work (17.6%), full-time work (26.5%), and personal income (45.6%). Bursaries or scholarships accounted for 10.3% of financial support while studying.

4.1.4 Family and support

This category focuses on the forms of support participants reportedly had access to while studying at UWC. It includes relationship status, children, affiliation with any community-based organisations and whether they reside on or off-campus. Table 4 below summarises the profile or sample data for this category.

Table 4
Family and support (N=68)

		Frequency (<i>f</i>)	Percent (%)
Relationship status	Single	32	47.1
	Long-term relationship	5	7.3
	Married	30	44.1
	Divorced	1	1.5
Have children	Yes	38	55.9
	No	30	44.1
Children living with parent or abroad	Children live in SA with me	17	44.7
	In SA without me	2	5.3
	Children live in another country	19	50
Affiliation with any community based organisations (Church group, student organisations)	No	33	48.5
	Yes	35	51.5
Specify organisations.	Church	27	77.1
	Student Organisation	5	15.2
	No response	1	3
	Other	2	5.7
Live on/off-campus	On-campus	9	13.2
	Off-campus	48	70.6
	Other	11	16.2

As indicated in Table 4 above more than half of the sample (51.4%) are in a relationship and half of the sample (50%) were separated from their dependent children. Participants were asked if they were affiliated with any community-based organisation and almost half of the sample (48.5%) stated that they were not. From the participants that indicated they belonged to community-based organisations, the majority (77.1%) specified the organisation was of a religious nature, such as church-based.

4.1.5 Legal status

This category is an indication of the participants' legal status. It is broken down into the type of visa held by participants and their length of residency in South Africa. Table 5 below summarises the profile or sample data for this category.

Table 5
Legal status (N=68)

		Frequency (<i>f</i>)	Percent (%)
Type of visa	Student Visa or Permit	35	51.5
	Refugee Status	6	8.8
	Asylum Seeker	5	7.4
	Visitor's Visa	4	5.9
	Work Permit	4	5.9
	Permanent Resident	2	2.9
	Business Visa	1	1.5
	Spouse Visa	1	1.5
	Temporary Permit	1	1.5
	Special Permit for Zimbabweans	1	1.5
	Not Applicable	8	11.8
	Total	68	100
Length of residency in South Africa	Less than 1 year	15	22.1
	1- 4 years	22	32.4
	5+ years	31	45.6

From Table 5 above it is evident that 35 participants, which is more than half of the sample, held a student visa (51.5%). The most frequent visa types held after student visas were refugee status and asylum seeker visas (16.2%). However, 11.8% of participants indicated that visa type was not applicable to them and 5.9% specified having a visitor's visa. Both of the abovementioned could be a result of having acquired South African citizenship or having a pending visa or citizenship application. The majority of participants were living in South Africa for five or more years (45.6%). Almost a third of the sample (32.4%) lived in South Africa between one (1) and four (4) years. The smaller part of the sample (22.1%) lived in South Africa for less than a year.

4.2 Sources of perceived discrimination

The participants reported on the perceived sources of discrimination. The survey allowed for more than one source of perceived discrimination to be chosen. Table 6 below reflects the rank and frequency distributions for the sources of discrimination.

Table 6
Sources of perceived discrimination (N=68)

	Frequency (f)	Percentage (%)	Rank
Ancestry	35	51.5	1
Race	33	48.5	2
Shade of skin colour	15	22.1	3
Gender	10	14.7	4
Age	8	11.8	5
Other aspect of physical appearance	7	10.3	6
Education or income level	6	8.8	7
Height	3	4.4	8
Religion	2	2.9	9
Weight	1	1.5	10
Sexual orientation	1	1.5	10
Physical disability	0	0	11

From Table 6 above it emerges that there are clear groupings for sources of discrimination based on reported frequencies. The sources were categorised as high (above

40), moderate (between 20 and 40) and low (below 20). The most frequently reported sources of discrimination in the high category were ancestry (51.5%) and race (48.5%). Shade of skin colour (22.1%) was categorised as moderate. Reported sources of discrimination that were categorised as low were gender (14.7%), age (11.8%), other aspects of physical appearance (10.3%), height (4.4%), sexual orientation (1.5%), and weight (1.5%). There were no instances reported of physical disability as a source of discrimination.

Figure 1. below provides a graphic representation of the sources of perceived discrimination presented as percentages.

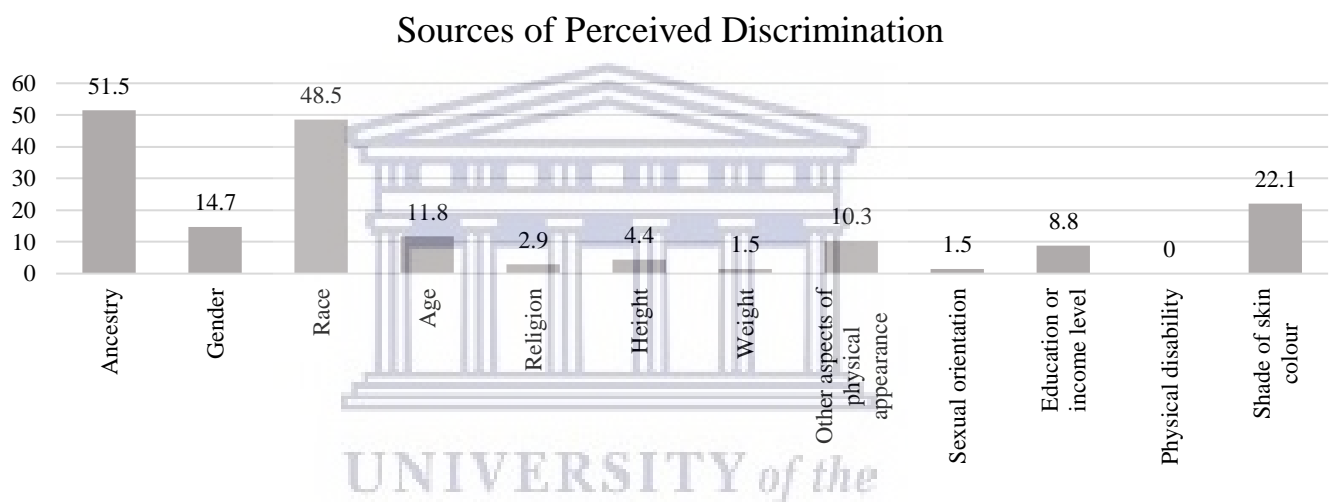


Figure 1. Sources of perceived discrimination

4.3 Inferential statistics

As mentioned before, correlation matrices were computed for demographic variables, perceived discrimination and perceived stress. The results were tabularised and are presented separately for perceived discrimination and perceived stress.

4.3.1 Correlation: Perceived discrimination and perceived stress

Table 7 below reflects the correlation matrix between perceived discrimination and perceived stress.

Table 7

Correlation perceived discrimination and perceived stress

	Perceived Stress	Perceived Discrimination
Perceived Stress	1	
Perceived Discrimination	.41**	1

** $p < .01$. (2-tailed).

A positive and modest association was found between perceived discrimination and perceived stress at a 0.01 alpha level ($r = .41$, $p < .01$). As perceived discrimination increases perceived stress increases. Perceived discrimination explained 16% of the variance on perceived stress as indicated by the coefficient of determination ($r^2 = .16$).

4.3.2 Correlation matrices between perceived discrimination and demographics

As mentioned before, a point-biserial correlation was computed for the categorical variables. Demographic variables, age, gender, relationship status, affiliation with community organisation, and length of residency were coded into categories. Age was coded into three categories (1= 18-21 years; 2= 22-25 years; 3= above 25 years). Gender was coded into two categories (1= male; 2= female). Relationship status was categorised as single (1) and in a relationship (2). Affiliation with a community organisation was coded into two categories (0= no; 1= yes) and length of residence was coded into three categories (1= less than a year; 2= 1-4 years; 3= over 5 years). Table 8 below summarises the correlations between demographic variables identified in previous literature as having an effect on perceived discrimination.

Table 8
Correlation between demographics and perceived discrimination

	Perceived Discrimination
Age	.00
Gender	.08
Relationship status	.07
Affiliation with any community based organisations	.17
Length of residency in South Africa	.35**

** $p < .01$. (2-tailed).

A positive, modest correlation was reported between length of residency and perceived discrimination that was significant at a .01 alpha level ($r = .35$, $p < .01$). Longer periods of stay in South Africa was significantly associated with increased perceptions of discrimination. Length of residency explained 12% of the variance on perceived discrimination as reflected by the coefficient of determination ($r^2 = .12$). Null findings were reported for all other correlations in this matrix. Thus, Length of residency was selected for inclusion in subsequent regression models.

4.3.3 Correlations between perceived stress and demographic variables

A correlation matrix was computed to test for associative relationships between demographic variables and perceived stress. Table 9 below summarises the outcome of the correlation matrix.

Table 9
Correlations between demographics and perceived stress (N=68)

	Perceived Stress (r)
Age	.00
Gender	.14
Relationship status	.01
Affiliation with any community-based organisations	.23
Length of residency in South Africa	.16

From the table above, it emerged that there were no significant correlations between the identified demographic variables and perceived stress. Thus, none of the demographics

were identified as potential covariates with perceived stress. The null findings here suggest that none of these variables needed to be controlled for in the subsequent regression analysis with perceived stress as an outcome. However, the empirical support in the literature is substantial and therefore the demographics were included as predictors for this model despite null findings on the covariation between the demographic variables and the outcome variable.

4.3.4 Regression

The results for the regression models are presented below per model.

4.3.4.1 Model 1.

The first model assessed the predictive relationship between demographic variables and perceived discrimination. Model 1 regressed age, gender, relationship status, length of residency in South Africa, and affiliation with a community organisation onto perceived discrimination. Model 1 was not significant at a 0.05 alpha level ($F_{5,62} = 2.15, p = .07$). Thus, the combination of demographic variables (age, gender, relationship status, length of residency in South Africa, and affiliation with a community organisation) did not significantly predict perceived discrimination.

4.3.4.2 Model 2.

The second model tested the predictive relationship between perceived discrimination and perceived stress. This model was based on theory and evidence from the literature that perceived discrimination results in perceived stress. Model 2 tested whether perceived discrimination significantly predicted perceived stress. Table 10 provides a summary of the model.

Table 10
Summary of the Regression Models (N=68)

Model	R	R ²	Adjusted R ²	Std Error of the Estimate	Change Statistics			
					F change	df1	df2	Sig F change
2	.41	.17	.16	3.93	12.35**	1	61	.00

** $p < .01$

From Table 10 it is evident that Model 2 tested significantly at a .01 alpha level ($F_{1,61} = 12.35, p = .001$). The model explained 17% of the variance on perceived stress ($R^2 = .17$). In other words, the model significantly predicted perceived stress as a function of perceived discrimination. Table 11 presents the coefficient obtained in the regression analysis for the predictor variables in this model.

Table 11
Summary table for Model 2 (N =68)

Model	Variables	B	SE B	β	t	Sig (p)
2	Constant	25.14	1.19		21.16	.00
	Perceived Discrimination	.15	.04	.41	3.51	.00**

a. Dependent Variable: Perceived Stress ** $p < .01$

From Table 11 it becomes evident that perceived discrimination significantly predicted perceived stress at a .01 alpha level. For every one-unit increase in perceived discrimination scores, perceived stress increased by .15 ($B = .15, p < .01$). These results indicate that increased perceptions of discrimination predicted increased perceptions of stress.

4.3.4.3 Model 3.

The third model tested the predictive relationship between perceived discrimination, demographic variables, and perceived stress. Model 3 regressed perceived discrimination and identified demographic variables onto perceived stress. Table 12 presents the model summary.

Table 12
Summary of the Regression Models

Model	<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	Std Error of the Estimate	Change Statistics			
					<i>F</i> change	<i>df</i> 1	<i>df</i> 2	Sig <i>F</i> change
3	.45	.20	.12	4.01	2.38*	6	56	.04

**p* < .05.

Model Three explained 20.3% of the variance on perceived stress ($R^2 = .203$). Table 12 indicates that Model 3 tested significantly at a .05 alpha level ($F_{6,56} = 2.38, p = .04$). In other words, the model significantly predicted perceived stress as a function of the combination of perceived discrimination and the included demographic variables. Table 13 presents the summary of the coefficients for the predictors in the model.

Table 13
Coefficient table for Model 3 (N =68)

Model	Variables	<i>B</i>	<i>SE B</i>	β	<i>t</i>	Sig (ρ)
3	Constant	22.71	3.38		6.72	.00
	Perceived Discrimination	.14	.05	.38	2.88	.01**
	Length of residency in South Africa	.05	.69	.01	.07	.95
	Age	.80	1.01	.11	.79	.43
	Gender	.89	1.03	.11	.86	.39
	Relationship status	-.47	1.12	-.06	-.42	.67
	Affiliation with community organizations	1.21	1.09	.14	1.11	.27

***p* < .01

From Table 13 it emerged that perceived discrimination was a significant predictor of perceived stress ($B = .14, p < .01$) controlling for the demographic factors in the model. This result shows that for every one-unit increase in perceived Discrimination, perceived Stress increased by .14 controlling for length of residency in South Africa, age, gender, relationship

status, and affiliation with any community-based organisations. The inclusion of the demographic variables increased the explanation of shared variance from 17% to 20%.



CHAPTER FIVE

Discussion

The chapter provides an integrated discussion of the results. An executive summary is included to provide an overview for the ensuing discussion.

5.1 Executive Summary

The present study aimed to establish a demographic profile on the African international student population in the Faculty of Community and Health Sciences (CHS) at the University of the Western Cape (UWC). The present study attempted to address the lack of differentiation in research on foreign nationals by specifically examining the African international Student cohort in an institutional context. The present study further wanted to help establish a baseline demographic profile and assess the relationship between demographic variables, perceived discrimination, and perceived stress as key variables identified in the literature (Gunter & Raghuram, 2018; Liu & Zhao, 2016; Mossakowski & Zhang, 2014; Pascoe & Smart Richman, 2009).

A cross-sectional survey design was adopted to conduct the study. The research setting was the faculty of CHS at the UWC. The sampling frame comprised of a list of all international students from the African continent who were registered in the CHS faculty (N=319), a probability sampling method was employed which means that each participant who met the inclusion criteria had an equal chance of being selected. A total of 86 students responded, which resulted in a response rate of 27%. However, only 68 fully completed the questionnaire, therefore, the final sample size was 68 participants (N=68). This represented 21.1% of the total sampling frame which exceeded the average response rate of 20% for online surveys (Deutskens et al., 2004; Fowler, 2009).

A demographic questionnaire was utilised to produce descriptive statistics when establishing the demographic profile of the population. The Everyday Discrimination scale

(Williams et al., 1997) assessed the level of perceived discrimination experienced, as well as the sources of said discrimination. The Perceived Stress Scale (Cohen et al., 1983) provided a measure of the level of perceived stress experienced. To produce inferential statistics a Pearson's correlation, point biserial correlation, simple linear regression, and multiple regression were utilised to test the hypothesised relationships between the variables.

5.2 Discussion

The discussion section is organised by the objectives of the study.

5.2.1 Objective 1: Demographic profile

The demographic profile was compiled into five categories, namely identifying information, course or study details, financial details, family and support, and legal status. The comprehensive demographic profile provides insight into relevant interventions, resources, and support for this cohort.

A range of 18 African countries was reported as countries of origin in this sample. The wide range of countries represented in the sample was expansive considering that the data was only from one faculty (CHS) and not the entire university. Zimbabwe was the country with the highest reported frequency. Zimbabwe neighbours South Africa and benefits from the higher education mobility agreement as a SADC country (Gunter & Raghuram, 2018). These agreements allow for the cost of education to be lowered and reserves 5% of university placements in South Africa. However, Zimbabwe is the only country in the top three countries of origin from the SADC region. This might be due to the allocation of the Zimbabwean Special Permit (ZSP) that allows individuals to work and study in the country (DHA, 2020). In Table 5, only one participant reported having a Zimbabwean Special Permit. This finding is consistent with previous estimates reporting that students from Zimbabwe were the largest group (DHET, 2013).

Zimbabwe ranked first (17.6%) as a country of origin followed by Nigeria (13.2%) and Kenya (13.2%). This is not surprising because migration figures in South Africa estimate that Nigeria come second to Zimbabwe in terms of the number of migrants in South Africa (Ikuomola & Zaaiman, 2016). The final country in the top three was Kenya. Kenya forms part of the Horn of Africa. The International Organisation of Migration (2020) reported that a significant number of migrants originate from outside the Southern Africa region with the Horn of Africa being the most notable. In previous research studies, Kenya and Nigeria were the only two countries in the top ten of Non-SADC countries sending students to South Africa (DHET, 2013; Lee & Schoole, 2019).

Libya, Gambia, Malawi and Swaziland jointly had the lowest frequency, with only one participant from each country forming part of the cohort. Malawi and Swaziland are both members of the SADC region, hence it is interesting to note that there was only one student from Malawi, and Swaziland respectively, especially when considering the regional mobility of higher education amongst SADC countries (Gunter & Raghuram, 2018; Lee, 2017). This is inconsistent with previous literature where Swaziland was in the top four countries of origin for students (Lee & Schoole, 2017).

The sample consisted of 48% postgraduate and 52% undergraduate students. The higher percentage of postgraduate students was consistent with literature. For example, Lee and Schoole (2017) found that there were a higher proportion of international students enrolled in postgraduate programmes than South African students. Mouton, Louw and Strydom (2013) found that PhD enrollments in higher education would be considerably lower if there were not international PhD students from Africa.

The majority of participants were above 25 years of age. In this cohort, the truncated age range is indicative of a mature student cohort. It might also be reflective of the higher

postgraduate component as the age of students in postgraduate studies was generally above 25 years old. Literature on the age of international students from the African continent participating in higher education in South Africa did not produce statistics on age (DHET, 2013; Gunter & Raghuram, 2018; Lee, 2017). However, the age of the sample was consistent with the age distribution of the student population at the institution. The institutional profile is comprised of more mature students which provides greater similarity between the international student cohort and institutional cohort (UWC, 2016).

The gender split in the sample was 44% female and 56% male participants. This was in contrast to the institutional profile. UWC has a higher number of female students than male students (UWC, 2018). This was also true for the CHS faculty in which there are more females reported in the helping professions (Tellhed, Bäckström, & Björklund, 2017). Lee and Schoole (2017) reported similar findings in a profile of international students with 52% being female.

An overwhelming majority of respondents reported that their studies were privately funded (83.8%). Private funding remains the primary source of financial support for international students, which is similar to the institutional profile (UWC, 2018). A reason for this could be their ineligibility as international students to receive funding from South African bursary schemes (Dominguez-Whitehead & Sing, 2016; Marginson, Nyland, Sawir & Forbes-Mewett, 2010).

In this cohort, the relationship status was fairly evenly split with those not in a relationship (single and divorced) at 48.6% and the majority being in a relationship (long-term relationship and married) at 51.4%. 55.9% of participants reported being parents. Only 44.7% reported living with their children. Family support is an important component of social

support, thus the participants who live without their children might find that their level of social support in the host country was reduced (Levitt, Lane, & Levitt, 2005).

Affiliation with a community-based organisation was defined as belonging to a church group or student organisation. More than half of the participants (51.5%) reported belonging to an organisation of which the majority belonged to a church organisation. This was consistent with the assertion of Wilkinson, Ebaugh and Chafetz (2002) that religion and religious affiliation was a form of social support for international students. In this cohort, 70.6% reported living off-campus. This was similar to the percentage of UWC students who live off-campus (UWC, 2016).

As expected, student visas or permits were held by the majority of the respondents (51.5%). This was followed by refugee status and asylum seekers who are allowed to study at a South African institution if their documents are valid. As mentioned previously, in order to enrol at a tertiary institution in South Africa appropriate documentation, showing legal status, should be provided to the University. It is important to highlight that 5.9% of participants reported not having the appropriate documentation at the time of the survey. There are many challenges reported with the securing of documentation that might explain why not all participants reported full compliance with documentation at the time of the survey. It should further be noted that international students are permitted to proceed with provisional registration when they have pending applications. The survey did not ask if they had pending applications and therefore cannot definitively say whether the 5% had pending applications or did not have appropriate documentation.

From the demographics and sample characteristics presented above, it becomes evident that the African international student cohort is not a homogenous group. It also became apparent that the sample characteristics were comparable to that of the student

population for the faculty and the institution. For example, private funding being the primary source of income, the age of the sample, and living off-campus. These similarities potentially provide opportunities that would make acculturation easier. However, there were notable differences such as the high number of postgraduate international students. The findings here provide a baseline profile specifically for health sciences at UWC that has been missing from the literature.

5.2.2 Objective 2: Sources of discrimination

Respondents were able to choose more than one reason for the source of discrimination. Ancestry ranked first (51.5%) with Race being a close second (48.5%). Race was followed by Shade of skin colour (22.1%) and Gender (14.7%). This is consistent with findings from previous research that international students from Africa experienced greater discrimination than students from outside the continent (Chimucheka, 2012; Dominguez-Whitehead & Sing, 2016; Lee, 2017). This discrimination was based on the nationality or ethnicity of the student and not necessarily only their race. Ethnicity was not provided as a reason for perceived discrimination on the Everyday Discrimination Scale, however, ethnicity is generally based on shared ancestry. Race and skin colour were ranked second and third as a source of perceived discrimination in this cohort which resonated with Lee (2017). Lee (2017) reported that race was a challenge further compounded by nationality especially for Zimbabwean and Nigerian students. Furthermore, participants reported there was a preference for lighter skin international students, with complexion used as a basis for discrimination. Similarly, black students from Zimbabwe, Mozambique, Nigeria, and the Democratic Republic of Congo emerged as being specifically discriminated against based on their country of origin or ancestry (Morris, 1998; Reitzes & Bam, 2000).

Gender (11.8%) and socio-economic status (8.8%) were categorised as low sources of discrimination even though international literature identified that gender and socio-economic

status would result in an increased risk of perceived discrimination (Kaduvettoor- Davidson & Inman, 2012; Liu & Zhao, 2016). This was an interesting finding as the 2008 Report of the Ministerial Committee on Transformation and Social Cohesion and the Elimination of Discrimination in Public Higher Education Institutions revealed that gender discrimination was a pervasive problem in higher education (Department of Education, 2008). Similarly, international students from Africa reportedly face more economic challenges than their counterparts from the Americas, Europe, and Asia (Dominguez-Whitehead & Sing, 2016). The findings of the present study on gender as a source of perceived discrimination suggest that the sample of African international students in CHS at UWC had a different experience of sources of perceived discrimination.

5.2.3 Objective 3: Associative Relationships

Perceived discrimination and perceived stress. An intuitive finding of this study was a moderate, positive relationship between perceived discrimination and perceived stress ($r=.41$, $p<.01$). An increase in the experience of perceived discrimination would result in an increase in perceived stress. This finding resonated with the available evidence base in which the strength of the positive relationship between perceived discrimination and perceived stress was consistently reported over more than two decades (Williams et al., 1999; Liebkind & Jasinskaja-Lahti, 2000; Everett et al., 2016).

Demographic variables and perceived discrimination. The results of this study show a significant, positive correlation between length of residency and perceived discrimination ($r=.35$, $p<.01$). This means that perceived discrimination increased as participants stayed longer in South Africa. The results are consistent with the literature that indicated length of residence in the host country was a significant predictor of discrimination (Carlisle & Stone, 2015; Crocker & Major, 1989; Dhalimi, Wright, Yamin, Jamil, & Arnetz,

2018). The reason for this might be that the longer the participant stays in the host country, the more likely they are to be used as scapegoats for the lack of resources.

The results showed null findings for all the demographic variables except length of residency. The null findings of the present study were contrary to previous research. For example, gender, age, and social support were all significantly correlated with perceived discrimination and perceived stress in the literature (Dhalimi et al., 2018; Dion, 2002; Flores et al., 2008; Lorenzo-Blanco & Unger, 2015; Pérez et al., 2008; Schmitt et al., 2014;). The theoretical and operational definitions of these variables in the present study were very similar to those in the literature. Likewise, the instrumentation was comparable. Thus, theoretical and operational definitions and instrumentation were not responsible for the difference in outcomes. The demographic profile of the sample was similar to that of the university population. This meant that other factors, such as gender and age, were less prominent in this sample as an indication of difference, consistent with the observation of Hoffman and Julie (2012). Thus, perceived discrimination was not significantly associated with these variables, likely due to the demographic profile of the target group not differing significantly from that of the university population. Similarly, Gunter and Raghuram (2018) indicated that the enrolment at universities in South Africa was racially profiled and that HDUs had higher percentages of Black students, older students, and female students. These observations would reduce the differences between the African foreign student cohort and the local student cohort at face value.

Demographic variables and perceived stress. The results of the present study indicated null findings for the associations between demographic variables and perceived stress. The findings were in contradiction to that reported in the literature. In the literature age, gender, social support, and length of residence were all highlighted as having an effect on stress in immigrant populations (Lorenzo-Blanco & Unger, 2015; Szaflarski & Bauldry,

2019; Watson, Logan & Tomar, 2008). The null findings for perceived stress follow on from the null findings on perceived discrimination. For example, acculturative stress was conceptualised in this study as a function of perceived discrimination (Kaduvettoor-Davidson & Inman, 2013). Therefore, if participants in this sample did not report perceived discrimination based on their perceived memberships to groups defined by gender, age, or social support affiliations, then it is unlikely that they will report resultant stress. This indicates that the potential stress associated with gender, age, and social support amongst the African international student population in CHS at UWC might not reach as high levels as reported in the literature for other populations. This underscores the importance of researching at an institutional level within faculties.

The present study found a moderate positive relationship between perceived discrimination and perceived stress, which was expected. However, there were no associative relationships between demographic variables and perceived discrimination, except for length of residency. This is in contrast to acculturative theory which states that the longer an immigrant is in a country the more likely they are to assimilate within the culture (Sam & Berry, 2018). This might be an indication that the South African situation is one where locals are under the impression that they are competing for scarce resources with African international students (Dominguez-Whitehead & Sing, 2016; McDonald, 2000). The longer the international student reside in South Africa the more likely it is that the locals will perceive them as competing for employment opportunities with their university qualification which might make them more attractive to potential employers.

5.2.4 Objective 4: Predictive Relationships

Model 1 did not test significant and the combination of selected demographic variables could not predict perceived discrimination. This finding was intuitive given the null findings reported in the correlation matrix. As with the correlation matrix, this finding refuted

current literature. However, these key demographic variables were added to the multiple regression model 3 based on reported evidence of the effects of these variables on perceived discrimination in literature (e.g. Flores et al., 2008; Gomez et al., 2011; Liu & Zhao, 2016; Schmitt et al., 2014). Perceived discrimination is also on the basis of perceived group membership defined by various demographic variables. Therefore, the inclusion of the demographic variables in the final model 3 would provide a more contextually relevant attempt at explaining the variance on perceived stress.

Model 2 significantly predicted perceived stress as a function of perceived discrimination ($r=.410$, $p<.01$). Perceived discrimination was able to predict perceived stress with a shared variance of 17%. This was in line with available literature (Everett et al., 2016; Palmary, 2018; Su et al., 2013).

Model 3 significantly predicted perceived stress as a function of perceived discrimination controlling for the demographic variables in the model ($F_{6,56}= 2.38$, $p<.05$). Here it is important to note that all the demographic variables were retained in the model. These variables added substantially to the explanation of the model ($R^2 = .203$) but did not emerge as significant predictors controlling for perceived discrimination. The identified demographic variables then gained in their unique or semi-partial coefficients in the presence of perceived discrimination. The results support the predictive relationship reported in literature between the combination of demographic variables and perceived discrimination, and perceived stress (Liu & Zhao, 2016; Pascoe & Smart Richman, 2009; Schmitt et al., 2014).

5.3 Conclusion

The present study aimed to provide a demographic profile of the African international student population registered in the CHS faculty at UWC. An African international student

refers to the country of origin located on the African continent, it does not refer to race or ethnicity. It further aimed to identify sources of perceived discrimination and the associative and predictive relationships between identified demographic variables, perceived discrimination, and perceived stress. The study found that the African international student contingent was not a homogenous group and should not be treated as such when understanding acculturation. An important finding from the demographic profile is that students were from a wide range of countries in the African continent. The findings also indicated that perceived discrimination is not necessarily defined only by membership to specific groups, but also by the nature and profile of the dominant group or culture into which the African international student is acculturating. It might be that at this university, in particular, the student body is composed of a larger politically black and female population (UWC, 2016).

The findings of the present study further supported the importance of studying at lower units of analysis such as at an institutional or faculty level. The lack of differentiation between the local and African foreign student cohort potentially reduces the strength of demographic variables as known sources of perceived discrimination.

The findings found associative relationships between perceived discrimination and perceived stress, as well as perceived discrimination and length of residency. There were no associative relationships between perceived stress and the demographic variables (age, gender, relationship status, affiliation with any community-based organisation, and length of residency).

The findings did not support a predictive relationship between demographic variables and perceived discrimination. This was contrary to the literature (Doyle & Molix, 2014; Everett et al., 2016; Flores et al., 2008; Kaduvettor-Davidson & Inman, 2013) and the tenets

of the acculturative stress theory framework (Liebking & Jasinskaja-Lahti, 2000; Sam & Berry, 2018). However, there was empirical support for the predictive relationship between perceived discrimination and perceived stress. This was an intuitive finding that was consistent with the literature (Kaduvettor-Davidson & Inman, 2013; Kessler et al., 1999; Magalhaes Das Neves et al., 2014). Furthermore, perceived discrimination emerged as a significant predictor of perceived stress controlling for the demographic variables (age, gender, relationship status, affiliation with any community-based organisation, and length of residency). This finding speaks to the important combination of perceived discrimination and demographic variables when studying perceived stress in immigrant populations. The collinearity between these variables is most important and it is imperative that we begin to examine how they interact and function within different samples.

5.4 Theoretical Formulation

Stress theory was utilised as the theoretical framework of the present study. It has been successfully adopted as the framework in other studies on perceived discrimination and stress (Sam & Berry; 2018; Williams et al., 2003). Acculturative stress theory is an expansion of this in which the acculturation process is seen as a stressor to the well-being of the individual (Liebkind & Jasinskaha-Lahti, 2000). Perceived discrimination is identified as a factor that contributes to this acculturative stress (Berry et al., 1987; Sam & Berry, 2018). The Everyday Discrimination Scale (Williams et al., 1997) and Perceived Stress Scale (1983) were utilised for their ability to measure discrimination and stress respectively.

The study reported null findings for associative relationships between demographic variables and the outcomes variables i.e. perceived discrimination and perceived stress. The only exception was the significant association between length of residency and perceived discrimination. As length of residency increased, perceived discrimination increased. These results were contrary to that which was anticipated. Based on Stress theory, the expectation

was that the perceived membership to groups, as measured by demographic variables, would contribute to perceived stress. Similarly, the expanded acculturative stress theory indicated that the longer an individual resided in the host country the more likely they were to assimilate and therefore experience less discrimination (Berry et al., 1987; Sam & Berry, 2018). As mentioned before, there were no concerns about instrumentation, power, or robustness of the analysis. Therefore, the null findings suggest that there are contextual factors that moderate the impact of demographic variables.

Long and Crisp (2011) concluded that South Africa was characterised by unemployment, job scarcity, and an influx of migrants in search of refuge or economic opportunities. Thus, the longer the African international student resides in South Africa as the host country, the less transient they become to the population. They are therefore seen to be competing for already scarce resources in South Africa. They are more likely to be perceived as a threat and competition for limited resources as illustrated in the recent xenophobic and indiscriminate biased attitudes or behaviour towards migrants. In this instance, the perceived membership to the migrant group overshadows the membership to subgroups based on ethnicity, gender etc. Thus, the theory should be applied judiciously at different levels to ensure that experiences due to group perceived group membership are explored at micro and smaller subgroup levels.

The apparent failure of the stress and acculturation theory in explaining the findings can be attributed to the difference in the unit of analysis. The theory posits intersection between micro level group membership e.g. country of origin. For example, Nigerian males may experience real or perceived discrimination based on their perceived membership to the subgroup of Nigerian migrants. In the current study, the findings suggest that membership to the migrant group (as a macro or abstract level membership) may be more useful in understanding perceived discrimination. I am not presenting an argument for

homogenisation, but for recognizing that group membership takes place at various levels that may have a differential impact on the findings. In this instance, the membership to the migrant group and the resource constraints in South Africa contributes to a different manifestation of discrimination.

The findings also illustrate the impact of institutional culture. For example, the similarities between demographic profiles of the local and African International populations accounted for the lower associations and null findings linked to demographic variables. Conducting the study at an institutional and disaggregated faculty level provided a more contextually relevant insight into the experiences of the students. The theory provides a broad framework that must be interpreted and applied flexibly to arrive at accurate reflections. The discrepancy between literature and the current study results from the disaggregated application of the study at an institutional level, thus bringing greater nuance to the findings.

The findings of the study indicated that there was a moderate correlation between perceived discrimination and perceived stress. The notion of the cultural divide is complex and extends beyond ethnicity, gender, and socioeconomic status. These particular results then illustrate the theoretical underpinnings of conflict theory more than acculturative stress theory. It is therefore proposed that acculturative stress theory and conflict theory be triangulated when studying discrimination and stress in the South African foreign national population.

The initial null findings on the predictive relationship between demographics and perceived discrimination was an extension of the discussion above. The second model confirmed the predictive relationship between perceived discrimination and perceived stress as anticipated on the basis of the theoretical framework. The third model indicated that the combination of demographic variables and perceived discrimination was successful in

predicting perceived stress. This finding demonstrated the theoretical supposition reported in the literature. Demographic variables were retained in the model because they added value and increased the percentage of variance explained, even though they did not all reach significance as predictors. The successful combination of these variables in model 3 underscores the importance of contextualised application of the theoretical framework.

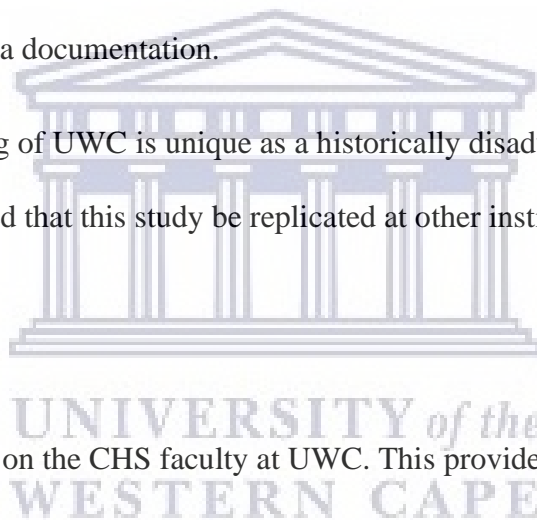
5.5 Limitations

This study has several limitations. Respondents were not asked whether their partners lived in South Africa with them and this could have implications for family and social support. It also failed to ask if there were pending visa applications which could account for not having the required visa documentation.

The research setting of UWC is unique as a historically disadvantaged university, therefore it is recommended that this study be replicated at other institutions of higher learning.

5.6 Recommendations

This study focused on the CHS faculty at UWC. This provides an indication of the varied patterns evident in African foreign international student populations. Based on the available body of literature and the results of this research study, a potential way forward would be to focus on other dimensions of psychological distress and its impact on a range of health outcomes. Additionally, research conducted on African foreign nationals in South Africa should consider the uniqueness of the South African migrant climate and triangulate acculturation theory and conflict theory for a better understanding. This study highlighted the importance of studying this population and should be replicated within other faculties at the University of the Western Cape to better understand if these results are faculty specific.



5.7 Significance of the study

The significance of the study at a practical level provides the university with insight into this cohort of African international students. Further, it provides information on the relationship between their perceptions of discrimination and stress, and demographic variables. This information could assist in tailoring interventions specifically for African international students from various backgrounds and contexts. The results of this study could provide institutional insight, inform student support, and assist in delivering advice to students. The empirical evidence provided by the present study will assist in not dealing stereotypically with this cohort.

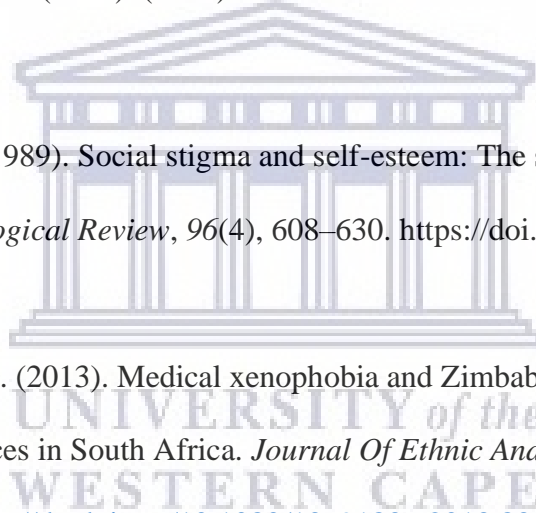
This research study contributed theoretically to the available knowledge by providing evidence that the African international student is not a homogenous group and should not be treated as such. This study demonstrated the importance of studying subgroups such as the African international student population. The group is diverse and is differentiated by various demographic variables such as gender, country of origin, course of study, social support, and legal status, which could contribute to stereotypical discrimination within the population group. Findings provided empirical support for the conflict theory as well as certain aspects of acculturative stress theory. The study contributed methodologically by following best practice guidelines in the application of survey research methodology.

This study succeeded in providing baseline data on the African international student population in a specific faculty at the University of the Western Cape.

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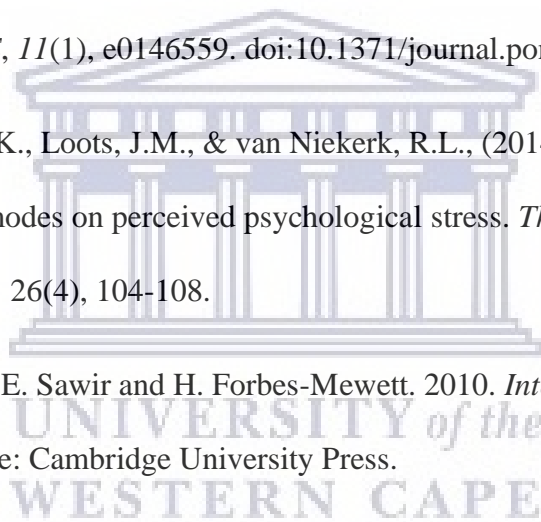
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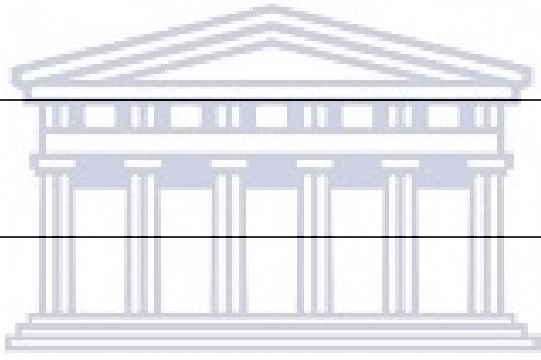
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Appendix A- Demographic Questionnaire

Demographic Profile				
Age				
Gender	<input type="checkbox"/> Female	Male		<input type="checkbox"/>
Country of Origin (specify)				
Support Networks				
Relationship Status	Single <input type="checkbox"/>	Long Term Relationship <input type="checkbox"/>	Married <input type="checkbox"/>	Divorced <input type="checkbox"/>
Children	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
If you answered yes to long term relationship, married and children, please specify whether you live with them in South Africa or whether they are abroad.				
If you answered yes to having children, please specify the number of children and their ages				
Are you affiliated with any community based organisations (Church group, student organisations)? Please specify which				
South African Residency				
Visa Type (specify)				
Length of Residency in South Africa thus far	<input type="checkbox"/> Less than a year	<input type="checkbox"/> 1-4 Years	<input type="checkbox"/> 5 + Years	
Do you or did you live on university residence or off campus when attending the university?	<input type="checkbox"/> On Campus Residence	<input type="checkbox"/> Off Campus Residence	Other (specify)	
Education				
Course of Study (specify)				
Level of Qualification	Diploma <input type="checkbox"/>	Undergraduate <input type="checkbox"/>	Postgraduate <input type="checkbox"/>	
Is the qualification accredited by the South African Qualifications Authority?	Yes <input type="checkbox"/>	No <input type="checkbox"/>		
Faculty of study (Please specify)				
	Undergraduate <input type="checkbox"/>	Postgraduate		<input type="checkbox"/>
Year of study				

(Please specify)	
How are your studies funded (e.g. sponsor, bursar, private or other)? Please specify	
What is your income or financial support while studying (e.g. part-time work)? Please specify	
What technical and infrastructural resources are in place (e.g. computers, research funding, mentoring)? Please specify	



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Appendix B- Everyday Discrimination Scale

- **Source:**

Williams, D.R., Yu, Y., Jackson, J.S., and Anderson, N.B. "Racial Differences in Physical and Mental Health: Socioeconomic Status, Stress, and Discrimination." *Journal of Health Psychology*. 1997; 2(3):335-351.

- **Measure:**

In your day-to-day life, how often do any of the following things happen to you?

1. You are treated with less courtesy than other people are.
2. You are treated with less respect than other people are.
3. You receive poorer service than other people at restaurants or stores.
4. People act as if they think you are not smart.
5. People act as if they are afraid of you.
6. People act as if they think you are dishonest.
7. People act as if they're better than you are.
8. You are called names or insulted.
9. You are threatened or harassed.

Recommended response categories for all items:

Almost everyday

At least once a week

A few times a month

A few times a year

Less than once a year

Never

• **Follow-up Question** (Asked only of those answering "A few times a year" or more frequently to at least one question.): What do you think is the main reason for these experiences? (CHECK MORE THAN ONE IF VOLUNTEERED). RECOMMENDED OPTIONS

1. Your Ancestry or National Origins

2. Your Gender
3. Your Race
4. Your Age
5. Your Religion
6. Your Height
7. Your Weight
8. Some other Aspect of Your Physical Appearance
9. Your Sexual Orientation
10. Your Education or Income Level

OTHER POSSIBLE CATEGORIES TO CONSIDER

1. A physical disability
2. Your shade of skin color (NSAL)
3. Your tribe (SASH)
4. Other (SPECIFY)



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Appendix C- Perceived Social Stress Scale

The Perceived Stress Scale (14 items) - Cohen et al, 1983

Recommended by The NIH Centers for Population Health and Health Disparities (CPHHD)-Measures and Methods Work Group (MMWG)

CPHHD Taxonomy- Health and Mental Health [Well-being]-stress & hypervigilance-Perceived Stress

Also recommended by MacArthur Foundation (see <http://www.macses.ucsf.edu/research/psychosocial/stress.php#perceived>)

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control important things in your life?
3. In the last month, how often have you felt nervous and “stressed”?
4. In the last month, how often have you dealt successfully with irritating life hassles?
5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?
6. In the last month, how often have you felt confident about your ability to handle your personal problems?
7. In the last month, how often have you felt that things were going your way?
8. In the last month, how often have you found that you could not cope with all the things that you had to do?
9. In the last month, how often have you been able to control irritations in your life?
10. In the last month, how often have you felt that you were on top of things?
11. In the last month, how often have you been angered because of things that happened that were outside of your control?
12. In the last month, how often have you found yourself thinking about things that you have to accomplish?
13. In the last month, how often have you been able to control the way you spend your time?
14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

[0=never; 1=almost never; 2=sometimes; 3=fairly often; 4=very often]

Note: Items 4, 5, 6, 7, 9, 10, and 13 are scored in reverse direction.

Appendix D- Information Sheet



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INFORMATION SHEET

Project Title: The relationship between demographic variables, perceived discrimination and perceptions of stress in a sample of African international students at a Historically Disadvantage Institution.

What is this study about?

This is a research project being conducted by Faranha Isaacs at the University of the Western Cape. We are inviting you to participate in this research project because you are/ were a registered international student at the University of the Western Cape (UWC) from an African country of origin in the current 2015/6/7 academic year. The purpose of this research project is to establish a profile of the African international student and to establish the relationship between demographic variables (e.g. age, gender, length of residence in South Africa, level of education), perceived discrimination and perceived stress among the African international student population at UWC.

What will I be asked to do if I agree to participate?

You will be asked to complete a short survey questionnaire. A link to an online survey will be sent to you. The survey consists of questions regarding demographics which includes, but are not limited to, age, gender, country of origin, length of residence in South Africa, visa types, relationship status and questions on education. It also consists of 10 Questions on perceived discrimination which include, but are not limited to, how often in your day-to-day life are you treated with less courtesy than other people; how often do people act as if they are afraid of you; and how often are you threatened or harassed. The responses for these questions will range from almost every day to never. The last part of the survey will consist of 14 questions on perceived stress which includes, but are not limited to, how often you felt nervous or stressed in the last month; and how often you felt that things were going your way in the last month. Responses to these questions range from never to very often

Would my participation in this study be kept confidential?

The researchers undertake to protect your identity and the nature of your contribution. To ensure your anonymity, the surveys are anonymous and will not contain information that may personally identify you. To ensure your confidentiality, all data will be stored in password protected computer files on a password protected computer, and only the researcher and the supervisor will have access to the data. The resulting theses and any possible publication will be summative and aggregated reporting, and not at the individual level therefore your identity will be protected.

What are the risks of this research?

There may be some risks from participating in this research study. The study touches on perceived discrimination and perceived stress, which may result in negative emotions, thoughts and feelings being brought to the fore. All human interactions and talking about self or others carry some amount of risks. We will nevertheless minimise such risks and act promptly to assist you if you experience any discomfort, psychological or otherwise during the process of your participation in this study. Where necessary, an appropriate referral will be made to a suitable professional for further assistance or intervention.

What are the benefits of this research?

This research is not designed to help you personally, but the results may help the investigator learn more about the challenges faced by international students from African countries, specifically perceived discrimination and stress. We hope that, in the future, other people might benefit from this study through improved understanding of the relationship that exists between perceived discrimination and stress amongst African international students.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

What if I have questions?

This research is being conducted by Faranha Isaacs, a Masters student in the Department of Psychology at the University of the Western Cape. If you have any questions about the research study itself, please contact Faranha Isaacs at: +2782-3182313 or 3742685@myuwc.ac.za.

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Prof. Mario Smith

Supervisor

mrsmith@uwc.ac.za/ 021-9592283

Dr Maria Florence

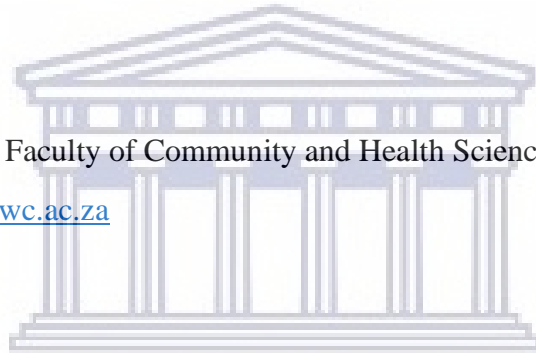
Acting Head of Department: Psychology

mflorence@uwc.ac.za/ 021-9592283

Prof R. Swart

Acting Dean of the Faculty of Community and Health Sciences

chs-deansoffice@uwc.ac.za



This research has been approved by the Senate Research Committee and the Humanities & Social Sciences Research Ethics Committee (HSSREC) of the University of the Western Cape.

UNIVERSITY OF THE
WESTERN CAPE

Appendix E- Informed Consent



UNIVERSITY OF THE WESTERN CAPE

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CONSENT FORM

Title of Research Project: The relationship between demographic variables, perceived discrimination and perceptions of stress in a sample of African international students at a Historically Disadvantage Institution.

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

I hereby voluntary give informed consent to participate in the study. Select the appropriate button below to indicate your response.

I AGREE TO PARTICIPATE

I DO NOT AGREE TO PARTICIPATE

Appendix F: Ethical clearance letter



OFFICE OF THE DIRECTOR: RESEARCH RESEARCH AND INNOVATION DIVISION

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03 October 2017

Mrs F Isaacs
Psychology
Faculty of Community and Health Sciences

Ethics Reference Number: HS17/5/17

Project Title: The relationship between demographic variables, perceived discrimination and perceptions of stress in a sample of African international students at a historically disadvantage institution.

Approval Period: 28 September 2017 – 28 September 2018

I hereby certify that the Humanities and Social Science Research Ethics Committee of the University of the Western Cape approved the methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval. Please remember to submit a progress report in good time for annual renewal.

The Committee must be informed of any serious adverse event and/or termination of the study.

A handwritten signature in black ink that reads 'Josias'.

*Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape*

PROVISIONAL REC NUMBER - 130416-049