

IMPOSTOR PHENOMENON, MINORITY STATUS STRESS AND RACIAL
MICROAGGRESSIONS ON THE MENTAL AND PHYSICAL HEALTH OF ETHNIC
MINORITY COLLEGE STUDENTS

by

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(Under the Direction of Bernadette Heckman, PhD.)

ABSTRACT

The impact of minority status stress, impostor phenomenon and racial micro-aggressions on the mental and physical health of ethnic minority college students was examined in the current study. Participants included: African American, Latino/a, Asian, Biracial, Multiracial and White students undergraduate students attending a large predominantly White university in the southeast. Results showed that minority status stress and impostor feelings are significantly related to mental health while racial micro-aggressions are significantly related to physical health and GPA. Impostor feelings were a significant predictor of mental health and racial micro-aggressions were a significant predictor for physical health. African American students were significantly less satisfied with their campus climate and Asian students reported significantly more impostor feelings. The culture of predominantly White universities has a unique impact on the experience and perceptions of ethnic minority students. Implications for working with ethnic minority

students regarding mental and physical health concerns on predominantly White campuses are offered.

INDEX WORDS: Impostor phenomenon, minority status stress, racial micro-aggressions, ethnic minority, college students, mental health, physical health

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DEDICATION

To my mother and brother Faraji, words are not enough to express my appreciation of your unwavering support as I pursued my dream of obtaining my Ph.D. The journey has been long but I am so thankful I had the both of you with me every step along the way. I could not have done this without either of you. Mom, thank you for every phone call, text, and your endless words of encouragement and Faraji, thank you for your thoughtfulness and kind words during my times of need.

MEMORIUM

In loving memory of my father, James Edward Hubbard (1952-2009), who had a dream that one day his daughter would get a Ph.D. I can only imagine how proud and happy you must feel to know your dream come true. I miss you every single day and wish I could share this experience with you. Dad, I did it!

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CHAPTER 1

Introduction

The demographics and cultural landscape of the United States continues to change at an ever-increasing pace. Just as the cultural landscape of the US is changing, so too is the cultural landscape of higher education. Overall, more students are enrolling in post-secondary education than in previous years. For instance, between 2006 and 2010 the total percentage enrollment increased from 40 percent to 43 percent (National Center for Education Statistics, 2012). Between 1976 and 2011 enrollment percentage increases were seen in Hispanic students (from 4% to 14%), Asian/Pacific Islander students (2% to 6%) and African American students (10% to 15%) (National Center for Education Statistics, 2013).

Academic Performance of ethnic minority college students

Differences have been gleaned in graduation rates and overall educational attainment by race/ethnicity. In 2005, the 6-year graduation rate for Hispanic students was 51%, African American students 40% and White students at 62%. For Asian students, their graduation rate was the highest of any ethnic group at 70% (National Center for Education Statistics, 2013). Differences can also be seen in academic experiences and attainment among ethnic minority college students. For instance, when asked about experiences taking remedial courses, 38 percent of Asian, 43 percent of Hispanics and 45 percent of African American students had taken a remedial course in comparison to just 31 percent of White students (National Center for Education Statistics, 2012).

Ethnic minority students were also more likely to receive a grade of incomplete: Hispanic (21%), African American (19%), Asian (15%) versus White (14%) and were more likely to have to repeat a course: African American (30%), Asian (30%), Hispanic (27%) versus White (20%) (National Center for Education Statistics, 2012). One limitation of the data provided is that it is not broken down by institutional type and research suggests that student experiences can vary at predominantly White universities versus non-predominantly White universities (ex. Historically Black Universities) (Ancis, Sedlacek, & Mohr, 2000; Johnson, Wasserman, Yildirim, & Yonai, 2014; Museus, 2008; Rankin & Reason, 2005).

Academic retention of ethnic minority college students

The increased enrollment rates are a positive indicator of upward mobility for ethnic minority populations. Yet, despite these increasing enrollment numbers, ethnic minority students continue to leave institutions of higher education at a greater rate than their White student peers (National Center for Education Statistics, 2012). The National Center for Education Statistics (2012) found the following first year attrition rates in 2004: Asian students (10%), Hispanic students (18%), African American students (20%) and White students (15%). Additionally, the National Center for Education Statistics (2012) using data from a 2003-2004 entering student cohort found that by June 2009, 23 percent of Asian students, 43 percent of African American students, 42 percent of Hispanic students and 33 percent of White students had not finished their education and were no longer enrolled in their respective institution meaning they did not receive their degree nor were they enrolled in any postsecondary institution. The data suggests that despite increases in

enrollment ethnic minority students on the whole are more likely not to persist towards completion of their degree in comparison to their White counterparts (National Center for Education Statistics, 2012).

While ethnic minority enrollment has increased for ethnic minority students in institutions of higher education, this group continues to lag behind their White counterparts on educational attainment (National Center for Education Statistics, 2012, 2013). Thus, ethnic minority college students are less likely to graduate, more likely to leave college early, more likely to have to take remedial courses, more likely to receive an incomplete grade and more likely to have to repeat a course (National Center for Education Statistics, 2012, 2013). Regardless of their ethnic background, when students experience disrespect on campus and do not feel socially and academically connected to their respective institution, it can put them at risk for leaving early without receiving a certificate or degree (Getzlaf, Sedlacek, Kearney, & Blackwell, 1984; Zea, Reisen, Beil, & Caplan, 1997). It is important to explore the elements of campus climates and experiences that can positively and negatively impact ethnic minority students.

CHAPTER 2

Literature Review

Experience of Campus Climate

Previous research has indicated the importance of being academically and socially integrated in the university environment (Getzlaf et al., 1984; Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008; Zea et al., 1997). Recently researchers have sought to explore the conditions that shape student retention on college campuses. Johnson et al. (2014) researched the impact of stress and perceptions of campus racial climate on the academic persistence (the decision to stay enrolled in their academic institution) of ethnic minority students at predominantly White institutions. For students of color, a negative indirect effect was found for stress in the academic environment on persistence. As academic stress increased, commitment to the institution decreased which had an indirect effect on persistence or their willingness to stay enrolled (Johnson et al., 2014). Additionally, the experience or observation of direct racism among students of color increased academic stress and negatively impacted feelings about the campus environment, commitment to the institution, and ultimately academic persistence (Johnson et al., 2014).

Research has continued to explore experiences in the academic and social environment that may impact student retention such as campus racial climates in PWU's (Museus, Nichols, & Lambert, 2008). Museus et al. (2008) conducted a study to explore how campus racial climates impacted undergraduate degree completion among college-aged students in PWU's. The results of this study indicated that overall White students

were the most satisfied with the campus racial climate at their institution while African American students were the least satisfied (Museus et al., 2008). Perceived campus racial climate was significantly related to institutional commitment for the ethnic minority students in the sample (Museus et al., 2008). For Asian students, a positive perception of campus racial climate was associated with better academic performance and higher levels of degree completion (Museus et al., 2008). For African American students, a positive perception of campus racial climate was associated with more normative academic involvement (participation in study groups, contact with faculty, meeting with academic advisor, etc.), which in turn led to higher levels of degree completion (Museus et al., 2008). Interestingly, for Latino students a positive perception of the campus racial climate was related to a reduction in social involvement, which in turn was related to higher levels of degree completion (Museus et al., 2008).

In summary, research exploring perceptions of campus climate has shown vast differences between ethnic minority students and White students (Ancis et al., 2000; Rankin & Reason, 2005). Negative perceptions of campus climate are associated with a greater likelihood of leaving their academic institution (Johnson et al., 2014) and less likelihood of degree completion (Museus et al., 2008). Since much of the research on campus climate that has compared ethnic minority students to White students has found that ethnic minority students often experience difficulties (racism and discrimination) due to their ethnic identity (Ancis et al., 2000; Rankin & Reason, 2005), it stands to reason that institutions with a higher degree of White students (i.e. predominantly white institutions) may pose more difficulties for ethnic minority students than institutions that

are historically predominantly ethnic minority serving institutions such as: historically Black universities, Hispanic serving universities, etc.

Racism, Discrimination and Racial Micro-aggressions

Ancis et al. (2000) demonstrated that African American students perceived significantly more racial conflict and racial-ethnic separation than Asian or White students, and significantly more interracial tension in the residence hall community than their White students peers. Collectively, African American, Asian and Latino/a students reported feeling a stronger need to conform to ethnic stereotypes regarding their academic performance and behavior and minimize their cultural expression in comparison to their White student peers (Ancis et al., 2000).

In a more recent study using a much larger sample, Rankin and Reason (2005) also explored the perceptions of different ethnic groups about their institutions campus climate. Findings suggests that a significantly higher percentage of ethnic minority students experienced and observed harassment and viewed their campus climate as racist, hostile, disrespectful and less welcoming to underrepresented students, thought their campus climate was getting worse, had less favorable views of the university and disagreed with the view that their university addressed racism (Rankin & Reason, 2005).

With a growing number of studies demonstrating that ethnic minority college students are experiencing racism and discrimination on campus (Ancis et al., 2000; Hwang & Goto, 2009; Rankin & Reason, 2005), researchers have sought to examine the impact of racism and discrimination experiences among racially diverse students (Hwang & Goto, 2009). For instance, Hwang and Goto (2009) conducted a study examining the impact of experiencing racial discrimination on Asian and Latino/a students. Positive associations

were observed among perceived discrimination and clinical depression, suicidal ideation, psychological distress and state and trait anxiety for Asian and Latino/a students (Hwang & Goto, 2009). Additionally, Latino/a students experienced more suspicion from others (stealing, cheating, breaking the law, etc.) and indicated greater levels of stress as a result of such accusations (Hwang & Goto, 2009).

Among African American college students, Prelow, Mosher, and Bowman (2006) examined the relationships between racial discrimination, social support and indicators of psychological adjustment through three models: social support buffering, social support mobilization and social support deterioration. As perceived discrimination increased, the perception of social support decreased (Prelow et al., 2006). Deteriorations in perceived social support was related to increases in depressive symptoms and decreases in life satisfaction (Prelow et al., 2006). A positive relationship was also observed between racial discrimination and depressive symptoms and a negative relationship was found between racial discrimination and life satisfaction (Prelow et al., 2006).

Beyond overt forms of racism or discrimination ethnic minority students also experienced subtle forms of racism and these experiences are called racial micro-aggressions (D. W. Sue et al., 2007). Racial micro-aggressions have been described as slights and insults toward ethnic minorities that can be hostile and derogatory in nature (D. W. Sue et al., 2007). Formally defined, racial micro-aggressions are “brief and commonplace daily verbal, behavioral, and environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative racial slights and insults to the target person or group” (D. W. Sue et al., 2007, p. 273). These

micro-aggressions have been broken down into three forms, micro-assault, micro-insult and micro-invalidation (D. W. Sue et al., 2007).

Recent research has explored the impact of racial micro-aggressions on mental health for ethnic minority college students (Nadal, Griffin, Wong, Hamit, & Rasmus, 2014). Nadal, Griffin, et al. (2014) found a negative association between racial micro-aggressions and mental health. The results also provided evidence that a certain type of micro-aggression may impact mental health (Nadal, Griffin, et al., 2014). For instance, being exoticized/assumed to be similar to all members of ethnic group was negatively associated with poor mental health symptoms (Nadal, Griffin, et al., 2014).

Racial micro-aggressions have also been studied in relation to alcohol use and anxiety for ethnic minority college students Blume, Lovato, Thyken, and Denny (2011). Research by Blume et al. (2011) indicated that ethnic minority students experienced significantly more racial micro-aggressions over the previous month than White students. Additionally a positive relationship was found between number of micro-aggressions experienced in the past month and anxiety and binge drinking events (Blume et al., 2011). Lastly, a significant positive relationship was found between the number of binge drinking events, the number of micro-aggressions and negative consequences associated with alcohol use (Blume et al., 2011). These results are particularly troubling as college students who experience more stress and other mental health symptoms are more likely to leave (drop-out) their academic institution early (Andersson, Johnsson, Berglund, & Ojehagen, 2009).

In summary, research evidence suggests that ethnic minority students on predominantly White campuses perceive their campuses as unfavorable in comparison to perceptions of their White peers (Ancis et al., 2000), have more discriminatory

experiences on campus (Blume et al., 2011; Nadal, Griffin, et al., 2014; Rankin & Reason, 2005) and as a result, report significantly more negative mental health outcomes (Blume et al., 2011; Nadal, Griffin, et al., 2014). This pattern of findings suggests that ethnic minority students on predominantly White campuses are likely to experience a great deal of stress and a multitude of mental and possibly physical concerns that may be detrimental to their well being and their efforts to maintain their higher education goals (Blume et al., 2011; Nadal, Griffin, et al., 2014; Rankin & Reason, 2005). Ultimately these experiences may impact how ethnic minority students view themselves and their ability to succeed in the academic environment (Museus et al., 2008).

Mental Health and Stress

In addition to their negative racial experiences on campus, ethnic minority students also report greater emotional distress than their majority White peers (Cokley, Hall-Clark, & Hicks, 2011). Using a sample of Latino/a, Asian, African American and White undergraduate students attending a predominantly White university, Cokley et al. (2011) explored the differences between these groups on perceived discrimination and mental health using a perceived discrimination scale and a mental health inventory. The researchers found that ethnic minority students reported poorer mental health, more perceived discrimination in comparison to their White peers and that perceived discrimination partially mediated the relationship between ethnic status and mental health (Cokley et al., 2011).

Research has demonstrated the negative impact of experiencing racial discrimination on mental health (Carter & Forsyth, 2010). For example, when asked to reflect on a memorable racist incident (such as verbal assault, physical assault, profiling, etc.) 44% of

ethnic minority individuals reported experiencing stress related to this experience two months to one year or longer after the incident (Carter & Forsyth, 2010). Such experiences can have a negative long-term impact on ethnic minority students (Carter & Forsyth, 2010). Additionally, depression, anxiety, and negative mood are common mental health outcomes that are associated with racial micro-aggressions experienced by ethnic minority students in college campuses (Nadal, Griffin, et al., 2014).

When examining the typical college student experience, Benton, Robertson, Tseng, Newton, and Benton (2003) reported that a number of college students seek help for stress/anxiety, depression, and other interpersonal concerns while attending college. In addition to these challenges, many ethnic minority college students on predominantly white campuses also experience unique issues in adjusting to college (Smedley, Myers, & Harrell, 1993). As indicated above, the stressors ethnic minority students experience on college campuses, extend above and beyond normative college student stressors and are referred to as “minority status stress” (Smedley et al., 1993). These unique stressors may include, for example: direct experiences with racism and discrimination or uncertainty about their belongingness to the institution due to their ethnicity (Smedley et al., 1993). As such this unique stress is attributed to both the physical and cultural attributes of ethnic group membership and is thought to compound the experience of normative college stressors (finances, academic skills, etc.) (Benton et al., 2003; Smedley et al., 1993). Smedley et al. (1993) discuss how experiencing this type of stress can make it such that ethnic minority college students feel a reduced sense of belonging and cause them difficulty when trying to integrate into the college environment. Smedley et al. (1993) also describe both direct and indirect pathogenic effects of minority status stress.

A direct, independent effect would be the stress experienced from one's ethnic minority status and the indirect effect occurs by compounding the normative stressors experienced in the college population (Smedley et al., 1993).

A growing body of research suggests that "minority status stress" (Smedley et al., 1993) independently predicts depression even after taking into account general stress among ethnic minority college students (Wei et al., 2010). Using an ethnic minority student sample from a predominantly White institution Wei et al. (2010) found minority status stress significantly accounted for an additional 3% of the variance in the prediction of depressive symptoms after controlling for general stress. The researchers noted that the small percentage of variance accounted for by minority status stress may be due to the considerable variance shared by minority status stress and general stress (Wei et al., 2010). Furthermore, a significant positive relationship was found between minority status stress and depression ($p < .001$) (Wei et al., 2010). The results of this study indicate the need for further research on the unique contribution of minority status stress.

Perception of the university environment at a predominantly White university has been found to be a mediator between the relationship of minority stress and college persistence attitudes (the decision to stay enrolled in their academic institution) (Wei, Ku, & Liao, 2011). Positive perception of the university environment (PWU) was negatively related to minority status stress and positively related to college persistence attitudes (Wei et al., 2011). Minority status stress accounted for 18% of the variance in perception of the university environment (Wei et al., 2011). Positive perception of the university environment and perceived general stress accounted for 24% of the variance in college persistence attitudes (Wei et al., 2011). An indirect effect of minority status stress on

college persistence attitudes through perception of the university environment was found for African American, Asian and Latino/a students (Wei et al., 2011). Thus the more minority status stress one experiences, the less positive one feels towards their predominantly White university environment and these negative perceptions indirectly influence whether or not an ethnic minority student decides to stay enrolled at the institution (Wei et al., 2011).

Impostor Feelings

Unfortunately, many ethnic minority students do not feel connected academically and socially at their respective predominantly White university (Ancis et al., 2000; Rankin & Reason, 2005) and numerous studies have highlighted the variety of reasons (Ancis et al., 2000; Getzlaf et al., 1984; Johnson et al., 2014; Museus et al., 2008; Zea et al., 1997). Many students report experiencing discrimination while on campus (Blume et al., 2011; Nadal, Griffin, et al., 2014; Rankin & Reason, 2005) and Wei et al. (2010) found that minority status stress is not only positively related to depressive symptoms but also accounts for a small amount of the variance of depression symptoms beyond general college stressors. Given the feelings of uncertainty around belongingness at their PWU coupled with the experiences of discrimination that characterizes minority status stress (Smedley et al., 1993) it is plausible that some ethnic minority students may develop negative perceptions of their PWU and these perceptions may lead them to leave the institution. One way to conceptualize the inner experience of some ethnic minority college students that serves as a barrier to connection and belongingness at their PWU is through the impostor phenomenon (Clance & Imes, 1978).

Clance and Imes (1978) conceptually described the impostor phenomenon as an internal experience occurring when an individual holds beliefs that they are intellectually deficient and as such defines intellectual successes externally as being due to “luck” or “effort.” The term was originally explored through the lens of high-achieving women who through internalized negative societal stereotypes of women and intelligence began to doubt their abilities and feel a sense of “phoniness” in the academic environment (Clance & Imes, 1978). However, ethnic minorities have also been impacted by negative societal stereotypes about their intellectual or academic abilities (Steele & Aronson, 1995). Similar to impostor feelings, stereotype threat has been conceptualized as a heightened awareness of negative stereotype(s) of one’s group membership that may make them more vulnerable to the stereotype in contexts when the stereotype is applicable (Steele, 1997; Steele & Aronson, 1995). Thus in a context such as an academic institution, negative stereotypes regarding intellectual ability can make individuals more vulnerable to impaired academic performance (Steele, 1997; Steele & Aronson, 1995). Conceptually, in academic contexts such as predominantly White universities ethnic minority students may be particularly vulnerable to stereotypes regarding their intellectual abilities (stereotype threat), and in turn may attribute their enrollment at the institution to an external factor such as “luck” or “filling a quota” (Steele, 1997; Steele & Aronson, 1995). Once these beliefs are internalized, these students may begin to doubt their own intellectual abilities (imposter feelings)(Clance & Imes, 1978), which may negatively impact their actual academic performance (Steele & Aronson, 1995). Given the high rates of minority status stress (Smedley et al., 1993), overt and subtle experiences of racism in PWU (Nadal, Griffin, et al., 2014; Rankin & Reason, 2005) and

negative racial and ethnic stereotypes regarding intellectual abilities (Steele & Aronson, 1995), it seems plausible that ethnic minority students in racially non-diverse universities may also feel like “impostors” and may question their own intelligence or fear they will be “found out” to be a fraud (Clance & Imes, 1978).

Feeling like an impostor has been associated with depressive symptoms for African American college students (Austin, Clark, Ross, & Taylor, 2009) and with having a family environment that emphasizes achievement as seen in a sample of White, African American and Asian college students (King & Cooley, 1995). Austin et al. (2009) found that of the 97 African American students who attended a historically Black university, increased impostor feelings predicted greater depressive symptoms and mediated the relationship between survivor guilt (guilt related to the fear of harming others due to one’s academic achievements) and depression symptoms. Although this study suggests a link between impostor feelings and depression, this research was conducted in a historically Black university, which fosters a campus climate that is dissimilar to campus environments in predominantly White institutions (Austin et al., 2009).

Women tend to experience feelings of being an impostor to a greater degree than men (McGregor, Gee, & Posey, 2008). Sightler and Gravely Wilson (2001) examined impostor feelings in young entrepreneurs. Participants who scored high on the impostor scale indicated that they tend to have an external locus of control while those who have lower scores on impostor feelings tend to have an internal locus of control (Sightler & Gravely Wilson, 2001). Thus, when one feels like a fraud they may perceive events or successes as occurring outside of their control or due to outside factors such as luck (Sightler & Gravely Wilson, 2001).

To date no studies have examined the link between racial micro-aggressions, impostor feelings, minority status stress, and academic performance among ethnic minority students. Although a number of studies have examined the psychosocial impact of racial micro-aggressions on Asians (Ong, Burrow, Fuller-Rowell, Ja, & Sue, 2013; D. W Sue, Bucceri, Lin, Nadal, & Torino, 2009; Wang, Leu, & Shoda, 2011), African Americans (Constantine, 2007; Solorzano, Ceja, & Yosso, 2000; Torres, Driscoll, & Burrow, 2010), Latina/o Americans (Minikel-Lacocque, 2013; Nadal, Mazzula, Rivera, & Fujii-Doe, 2014; Yosso, Smith, Ceja, & Solorzano, 2009), sexual orientation (Shelton & Delgado-Romero, 2011) and ethnic minority college students collectively (Blume et al., 2011; Harwood, Browne Hunt, Mendenhall, & Lewis, 2012; D. W Sue, Lin, Torino, Capodilupo, & Rivera, 2009), the psychosocial and academic outcomes associated with micro-aggressions, minority status stress and its link to impostor feelings have been less studied among racially diverse college students, and the impact such experiences can have on academic performance and emotional and physical well-being.

More recent research suggests that minority status stress and impostor feelings are strongly associated with psychological distress and poor psychological well-being in college students across various ethnic backgrounds (Cokley, McClain, Enciso, & Martinez, 2013). Specifically, Cokley et al. (2013) examined minority status stress and impostor feelings in ethnic minority college students. Cokley et al. (2013) found that African American students experienced more minority status stress (scoring higher on environmental stresses, race-related stresses and intragroup stresses) while Asian students experienced greater impostor feelings. Asian students also reported higher psychological distress and were lower on psychological well-being (Cokley et al., 2013).

A positive relationship was found for minority status stress and both impostor feelings and psychological distress while a negative relationship was found between minority status stress and psychological well-being (Cokley et al., 2013). Cokley et al. (2013) conducted two regression analyses with the outcomes variables psychological distress and psychological well being. Gender was not found to be a significant predictor of psychological distress (Cokley et al., 2013). After controlling for gender, minority status stress was a significant predictor of psychological distress and accounted for 8% of the variance in the model (Cokley et al., 2013). The addition of impostor feelings was also a significant predictor of psychological distress and added an additional 25% (Cokley et al., 2013). The model for psychological distress accounted for 33% of the variance. In the second regression analysis gender was not a significant predictor of psychological well being (Cokley et al., 2013). After controlling for gender, minority status stress was a significant predictor of psychological well being and accounted for 2% of the variance in the model. The addition of impostor feelings was also a significant predictor of psychological well being and added an additional 17% (Cokley et al., 2013). The model for psychological well being accounted for 19% of the variance (Cokley et al., 2013). This study again establishes the link between both impostor feelings and minority status stress on negative mental health outcomes (Cokley et al., 2013). This dissertation project seeks to examine the deleterious effects of minority status stress and imposter feelings not only on psychological well being but physical well-being in a racially diverse sample of college-age students in PWU.

Conceptual Framework: Biopsychosocial Model of Perceived Racism

The theoretical framework that guides this dissertation project is the Bio-psycho-social Model of Perceived Racism (Clark, Anderson, Clark, & Williams, 1999). Clark et al. (1999) described the pervasiveness of racism in society and the need for a model that can help explain the intergroup differences in health outcomes due to perceptions of racism as stressful. They argue that understanding the link between experiencing racism and health outcomes allows for the development of targeted interventions and prevention initiatives that may be needed to prevent long-term negative impacts (Clark et al., 1999). Building off of a more general stress-coping model, Clark et al. (1999) developed the bio-psycho-social model to be both comprehensive and empirically testable.

This model provides the framework for which the study variables and analyses will be examined. Although this model was constructed for understanding the African American experience, it can be argued that the model may be applicable to other ethnic populations that also share in experiences of environmental stimuli as being racist and thus stressful. Using this conceptual framework, one may posit that predominantly White institutions can serve as an environmental stimulus that can be perceived by ethnic minority students to be racist (Clark et al., 1999). After controlling for constitutional factors, socio-demographic factors and psychological/behavioral factors such as SES, social support, personality, identity, etc., students who perceive their institution to be racist would likely assess their campus racial climate negatively and would likely endorse more experiences of racial micro-aggressions. Based on the perception of the predominantly White institution as being racist, ethnic minority students are also likely to experience psychological and physical stress responses such as minority status stress and

impostor feelings. These responses over time are likely to lead to lower psychological and physical well-being. Thus this dissertation seeks to explore these relationships in a sample of ethnic minority college students providing more empirical evidence for this conceptual model.

Rationale for the Current Study

The purpose of this dissertation is to expand on Cokley et al. (2013) research by examining the relationship between minority status stress, racial micro-aggressions and the imposter phenomenon on the mental health, physical health and academic performance of ethnic minority students and to examine factors that theoretically explain these links for ethnic minority college students. While (Cokley et al., 2013) found differences between ethnic minority college students on experiences of minority status stress and impostor feelings, more research is needed to understand the cultural variables that can help explain these differences between ethnic minority college students as well as the potential impact of minority status stress and impostor feelings on physical health and academic performance. This study builds on the literature by exploring how cultural variables: ethnic identity, acculturation status and social support impact the aforementioned relationships and by including a measure of physical well being in addition to exploring mental well being (Cokley et al., 2013). The result of this study has implications for psychologists and university administrators that work with ethnic minority college students. By understanding the mechanisms that impact the mental and physical well being of ethnic minority college students more work can be placed to develop prevention measures that can prevent adverse health and academic outcomes.

Using the biopsychosocial model on racism, the current study will examine the following questions:

Research Questions and Hypotheses

Research Question 1: Do ethnic minority students (Asian, African American and Latino/a) experience a more negative campus climate, greater impostor feelings and decreased mental and physical well being compared to White students in PWUs?

Hypothesis 1: Ethnic minority students will report significantly greater scores on the campus climate measure, and the impostor feelings scale and decreased mental and physical health in comparison to the Caucasian/White students at a PWI.

Research Question 2: Does greater experience of racial micro-aggressions, minority status stress and impostor feelings relate to poorer mental, physical health and academic performance for ethnic minority students?

Hypothesis 2: Ethnic minority students experiencing more racial micro-aggressions, greater minority status stress and impostor feelings will also report lower scores on the mental and physical health scale and poorer academic performance.

Research Question 3: After controlling for ethnic identity, social support and acculturation status does impostor feelings, minority status stress and racial micro-aggressions significantly predict mental and physical health for ethnic minority students?

Hypothesis 3: Impostor feelings, minority status stress and racial micro-aggressions will predict mental and physical health above and beyond ethnic identity, social support and acculturation status for ethnic minority college students. The addition of racial micro-aggressions will significantly account for more of the variance in mental and physical health.

CHAPTER 3

Methodology

Procedure

The Institutional Review Board at a large southeastern University approved the current study. The author followed the recommendations from (Kraut et al., 2004) on the use of internet research. An e-mail containing brief information regarding the purpose of the study was distributed to undergraduate college students who self-identified as African-American/Black, Latino/Hispanic, and Asian/Pacific Islander. The e-mail contained a link to the informed consent and survey instruments. A follow-up e-mail was sent two-weeks later to the e-mail pool. Additionally, the online survey was posted on a departmental research portal named SONA to be taken for research credit in select courses. Prior to completing any survey materials participants were asked to read and click “agree” to participate in the study. Those who consented to participation completed a series of questionnaires including: demographic information, minority status stress, impostor phenomenon, racial micro-aggressions, campus racial climate, ethnic identity, social support, acculturation status, mental well being and physical well being. Participant data could only be accessed by the researcher and was contained in a password-protected file.

Participants

Table 1 shows the demographic characteristics of the sample. Table 2 shows the demographic characteristics of the sample by ethnicity. Among 686 undergraduate

students (178 men and 503 women) recruited at a large southeastern university in the United States 43 (6.3%) self-identified as Hispanic or Latino/a, 157 self-identified as Black or African American (23%), 87 self-identified as Asian/Pacific Islander (12.8%), 340 self-identified as White (49.9%), 42 self-identified as Biracial (6.2%) and 13 self-identified as Other/Multicultural (1.9%). The mean age of the sample was 20.78. The majority of the participants recruited in the sample completed the survey through the counseling and human development services research pool and to increase ethnic minority student participation students were also recruited through e-mail addresses provided by the office of the registrar if they self-identified as being Black or African American, Hispanic or Latino/a or Asian/Pacific Islander.

The mean GPA of the sample was 3.78. The majority of the participants in the sample self-identified as being: a senior in college (47.3%), followed by junior (28.4%), sophomore (14.2%), and freshman (10.1%). Regarding socio-economic status the majority of the sample identified their family as middle class (41.3%) followed by upper middle class, (39.6%), working class (12.5%), wealthy (4.3%) and poor (2.4%). Family income of participants in the sample varied with the majority of the sample reporting that their family makes more than \$60,000 per year (54.2%), between \$40,000 and \$60,000 (15.3%), between \$30,000 and \$40,000 (9.4%), between \$20,000 and \$30,000 (7.7%), between \$10, 000 and \$20,000 (5.5%) and less than \$10,000 (3.5). Participants were also asked to estimate their personal income per year and the majority of students indicated that they made less than \$10,000 per year (71.9%), between \$10,000 and \$20,000 (5.5%), between \$20,000 and \$30,000 (1.3%), \$30,000 and \$40,000 (.9%), between \$40,000 and \$60,000 (.9%) and more than \$60,000 (3.9%). Campus organizational involvement varied

by study participants with most participants indicating involvement in only one campus organization (32.6%), followed by two organizations (31.8%), three organizations, (23.2%), four organizations, (7.7%), five organizations (2.4) and more than five organizations (2.4%).

Measures

Demographics. Demographic questions will be asked of participants such as: gender, age, year in school, major, family income, and generational status.

Minority Status Stress. *Minority Student Stress Scale* (MSSS; (Smedley et al., 1993). The Minority Student Stress Scale consists of 37-items measuring both stressors due to minority status and general college student stressor. Responses are scored on a 6-point likert scale ranging from 0 (does not apply) to 5 (extremely stressful). The Minority Student Stress scale is comprised of six subscales including: environmental stresses, achievement stresses, race-related stressed, interpersonal stressors with White people, intrapersonal stresses, and interpersonal stresses among ethnic minority groups. In regards to scoring, both subscale scores and/or total scores can be used for analysis. Example items include “Being treated rudely or unfairly because of my race” and “The White-oriented campus culture of the university.” Internal consistency reliability estimates range from .63 to .92 for subscale scores (Cokley et al., 2013; Greer, 2008; Liang, Li, & Kim, 2004; Rodriguez, Bingham Mira, Myers, Morris, & Cardoza, 2003) and .92 to .97 for the total score (Cokley et al., 2013; Greer & Brown, 2011; Greer & Chwalisz, 2007; Liang et al., 2004; Rodriguez et al., 2003). The internal consistency reliability estimate of the total score for this study was .957.

Imposter Phenomenon. *Clance Impostor Phenomenon Scale* (CIPS; (Clance, 1985). The Clance Impostor Phenomenon Scale consists of 20-items measuring the extent to which an individual feels their external accomplishments are due to chance or luck rather than one's actual abilities. Responses are scored on a 5-point likert scale ranging from 1 (not at all true) to 5 (very true). In regards to scoring, the Clance Impostor Phenomenon Scale is scored by total score from 20 to 100 with higher scores indicating a stronger degree of the impact of impostor feelings on an individual. Example items include: "Sometimes I'm afraid others will discover how much knowledge or ability I really lack" and "At times, I feel my success has been due to some kind of luck." Internal consistency reliability estimates range from .86 to .96 (Austin et al., 2009; Chrisman, Pieper, Clance, Holland, & Glickauf-Hughes, 1995; Cokley et al., 2013; Gibson-Beverly & Schwartz, 2008; Holmes, Kertay, Adamson, Holland, & Clance, 1993; Kumar & Jagacinski, 2006). The internal consistency reliability estimate for this study was .915.

Racial Micro-aggressions. *The Racial and Ethnic Micro-aggressions Scale* (REMS; (Nadal, 2011). The Racial and Ethnic Micro-aggressions Scale consists of 45 items measuring the extent to which an individual has experienced common racial and ethnic micro-aggressions. Responses are scored on a scale ranging from 0 (never) to 1 (at least once). Participants are asked to indicate whether the experience described had occurred during the previous 6 month period. In regards to scoring, the Racial and Ethnic Micro-aggressions Scale is scored by a total score with higher scores indicating more experiences of micro-aggressions. The measure includes six subscales: Assumptions of inferiority, second-class citizen and assumptions of criminality, micro-invalidations, exoticization and assumptions of similarity, environmental micro-aggressions and

workplace/school micro-aggressions. Example items include: “I was ignored at school or at work because of my race” and “I was told that I complain about race too much.”

Internal consistency reliability estimates for the total scales and subscales range from .78 to .95 (Nadal, 2011; Nadal, Mazzula, et al., 2014). The internal consistency reliability estimate of the total score for this study was .954.

Campus Racial Climate. *The Cultural Attitudes and Climate Questionnaire* (CACQ; (Helm, Sedlacek, & Prieto, 1998). The Cultural Attitudes and Climate Questionnaire consist of 100 items measuring student perceptions of their institutions racial and ethnic climate. Responses are scored on a likert scale. The measure includes 11 factors including: racial tension, cross-cultural comfort, diversity awareness, racial pressures, residence hall tension, fair treatment, faculty racism, respect for other cultures, lack of support, comfort with own culture and overall satisfaction. Example items include: “There are interracial tensions in the classroom” and “Faculty treat met fairly.” Internal consistency reliability estimates for the total scale range from .78-.81 (Ancis et al., 2000; Helm et al., 1998). The internal consistency reliability estimate of the overall campus satisfaction subscale for this study was .875.

Ethnic Identity. *Multi-group Ethnic Identity Measure-Revised* (MEIM-R; (Phinney & Ong, 2007). The Multi-group Ethnic Identity Measure consists of six closed-ended items measuring the extent to which individuals have explored and feel committed to their ethnic background and one open-ended item which asks individuals to self-identify their ethnic group. Responses are scored on a 5-point likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). In regards to scoring, scores are assessed for the exploration and commitment subscales as well as an overall scale value. Example items

include: “I have a strong sense of belonging to my own ethnic group” and “ I feel a strong attachment towards my own ethnic group.” Internal consistency reliability estimates for the total scale range from .76-.91 (Brown et al., 2014; Phinney & Ong, 2007; E. Yoon, 2011). The internal consistency reliability estimate of the total score for this study was .899.

Social Support. *MOS Social Support Survey* (SSS; (Sherbourne & Stewart, 1991). The MOS Social Support Survey consists of 19 items assessing the availability of different types of support one my experience. Responses are scored on a 5-point likert scale ranging from 1 (none of the time) to 5 (all of the time). The measure includes four factors: emotional/info support, tangible support, positive interaction and affection as well as an overall support index score. Example items include: “Someone who shows you love and affection” and “ Someone to do something enjoyable with.” Internal consistency reliability estimates for the total score range from .96-.97 (Dinh, Holmberg, Ho, & Haynes, 2014; Sherbourne & Stewart, 1991) and .91-.96 for the factors (Sherbourne & Stewart, 1991). The internal consistency reliability estimate of the total score for this study was .969

Acculturation Status. *Bicultural Self-Efficacy Scale* (BSE; (David, Okazaki, & Saw, 2009). The Bicultural Self-Efficacy Scale consists of 26 items measuring the extent to which an individual self-identifies as being competent in their cultural heritage as well as the mainstream culture. Responses are scored on a 9-point likert scale ranging from 1 (strongly disagree) to 9 (strongly agree). In regards to scoring total scores range from 26-234 with a higher score being indicative of greater bicultural competence. The scale includes six factors: social groundedness, communication ability, positive attitudes

toward both groups, knowledge of cultural beliefs and values, role repertoire and bicultural beliefs. Example items include: “An individual can alter his or her behavior to fit a particular social context” and “ It is acceptable for a mainstream American individual to participate in two different cultures.” Internal consistency reliability estimates for the total score range from .92-.94 and from .46-.91 for the subscales (David et al., 2009; Wei et al., 2010). The internal consistency reliability estimate of the total score for this study was .944.

Mental Health/Physical Health. *The Short Form 36 Item Health Survey* (SF-36; (Ware & Sherbourne, 1992). The Short Form 36 Item Health Survey consists of 36 items measuring both physical health and mental health. Response scores can range from 0 (impairment) to 100 (no impairment). The scale consists of 8 factors including: physical functioning, role limitations due to physical functioning, body pain, general health perceptions, vitality, social functioning, role limitations due to emotional functioning and mental health. Example items include: “Have you been a very nervous person?” The internal consistency reliability estimate for this study was .940 (physical functioning), .834 (role limitations due to physical functioning), .789 (pain), .756 (general health), .762 (energy/fatigue), .834 (social functioning), .876 (role limitations due to emotional problems), and .815 (emotional well being).

Academic Performance. Participants were asked to disclose their current GPA.

CHAPTER 4

Results

This study examined the relationships between impostor feelings, minority status stress and racial micro-aggressions and the mental and physical well-being of ethnic minority college students after controlling for ethnic identity, acculturation status and social support. Data were collected from 682 undergraduate students through Qualtrics.

Data Screening

Following the recommendations of Tabachnick and Fidell (2007), data screening was conducted by examining all variables' descriptive statistics using SPSS Version 22 to characterize amounts and patterns of missing data, identify out of range values, assess means and standard deviations for feasibility, and identify univariate and bivariate outliers (the latter of which was assessed using scatterplots). The data were examined for nonlinearity and heteroscedasticity using histograms and bivariate scatterplots (Tabachnick & Fidell, 2007). To identify any non-normal variables, skewness and kurtosis were examined visually and by examining at the variable's descriptive statistics. Lastly the variables were evaluated for multicollinearity and singularity. Bivariate correlations were conducted among all variables (Tabachnick & Fidell, 2007). A total of 19 cases with extremely low z scores (less than -3.29 or greater than +3.29) on the Bicultural Competence, Campus Climate, Social Support, Role Limitations due to Emotional Problems, Social Functioning, Bodily Pain, General Health and Physical

Health Composite measure were found to be univariate outliers. Those cases were deleted from the dataset.

Descriptive Statistics of Main Variables

The descriptive statistics of the main variables included in the study are detailed in Table 3. The mean values of each variable by ethnicity are detailed in Table 4.

To examine research Question 1 (Do ethnic minority students (Asian, African American and Latino/a) report significantly higher scores on negative campus climate, report more impostor feelings and report significantly poorer mental and physical well being compared to White students in PWIs?), a MANOVA was conducted. Student race (White, non-White) was the grouping variable and was used to compare minority students and White students on the variables of campus climate, impostor feelings, mental well being and physical well-being.

Using Wilkes's statistic, there was a significant relationship between ethnicity, campus climate, impostor feelings, mental health and physical health (Table 4), $\Lambda = .86$, $F(4, 454) = 17.778$, $p < .01$, partial $\eta^2 = .14$. Tests of between-subjects effects on the outcome variables revealed a significant relationship between ethnicity and perception of campus climate $F(1, 457) = 52.28$, $p < .01$, partial $\eta^2 = .10$, impostor feelings $F(1, 457) = 12.92$, $p < .01$, partial $\eta^2 = .03$, and mental health $F(1, 457) = 28.41$, $p < .01$, partial $\eta^2 = .06$. A non-significant relationship was found for physical health $F(1, 457) = .297$, $p > .05$, partial $\eta^2 = .001$.

A post-hoc Tukey test showed that African American and Asian students were significantly less satisfied with their campus climate than White students ($p = .000$; $p = .005$, respectively). Additionally, White students were significantly more satisfied with

their campus climate than Asian students ($p = .005$). Regarding impostor feelings, Asian students indicated experiencing significantly more impostor feelings than their White peers ($p = .017$). White students reported significantly better mental health than African American students ($p = .012$), Asian students ($p = .009$) and Biracial students ($p = .042$).

To examine research Question 2 (Does greater experience of racial micro-aggressions, minority status stress and impostor feelings relate to poorer mental, physical well being and academic performance for ethnic minority students?), bivariate correlational analyses were conducted (Table 6) using the variables racial micro-aggressions, minority status stress, impostor feelings, mental well being, physical well-being and academic performance to quantify positive and negative relationships.

A significant negative relationship was found between racial micro-aggressions and physical health ($r = -.227$) and GPA ($r = -.134$). A significant positive relationship was found between racial micro-aggressions and minority status stress ($r = .611$) and impostor feelings ($r = .192$). Thus those who report experiencing more racial micro-aggressions also report experiencing: overall poorer physical health, lower GPA more stress due to their ethnic minority status and more impostor feelings. A significant negative relationship was found between minority status stress and mental health ($r = -.277$) and physical health ($r = -.148$). A significant positive relationship was found between minority status stress and impostor feelings ($r = .335$). Thus those who report experiencing more minority status stress also report experiencing: poorer mental health, poorer physical health and more impostor feelings. A significant negative relationship was found between impostor feelings and mental health ($r = -.428$). Thus those who report experiencing more impostor feelings also report experiencing: poorer mental health. A significant positive

relationship was found between mental health and GPA ($r = .089$). Thus those who report experiencing better mental health also report a higher GPA.

To examine research Question 3 (After controlling for ethnic identity, social support and acculturation status does impostor feelings, minority status stress and racial micro-aggressions significantly predict mental and physical well being for ethnic minority students?), separate hierarchical multiple regressions were conducted on mental health (Table 8) and physical health (Table 9). In step 1 of the regression, the covariates were entered (ethnic identity, social support and acculturation status). In step 2, minority status stress was entered. In step 3, impostor feelings were entered and, finally, in step 4, racial micro-aggressions was entered. R^2 was assessed at each step of the model to determine the amount of variation in mental well being and physical well being is explained by variables entered into the model. The F-ratio and associated significance value was assessed to determine if each model is a significant predictor of mental health and physical health.

When predicting mental health (Table 8), the variables accounted for 20% of the variance. Bicultural competence, ethnic identity and campus climate were predictive of mental health in the final model. After controlling for these variables, consistent with the hypothesis of this study, impostor feelings were also predictive of mental health and contributed an additional 7.8% of the variance beyond minority status stress. Lastly, after controlling for impostor feelings, racial micro-aggressions was also a significant predictor mental health and contributed an additional 1.1% beyond impostor feelings. When predicting physical health (Table 9), the variables accounted for only 5% of the variance. Racial micro-aggressions were found to be a significant predictor of physical

health in the final model. Racial micro-aggressions contributed an additional 3% of the variance beyond minority status stress and impostor feelings.

CHAPTER 5

Discussion

An increasing number of ethnic minority students are enrolling in higher education but despite this increase ethnic minority students continue to leave their respective academic institutions at a rate greater than that of their White peers (National Center for Education Statistics, 2012, 2013). Researchers have explored the potential reasons ethnic minority students may choose to leave their institution and have found that predominantly White universities pose unique difficulties due to student perceptions of negative campus racial climates and direct experiences of racism (Johnson et al., 2014; Museus et al., 2008). Beyond overt forms of racism or discrimination ethnic minority students also report experiencing subtle forms of racism and these experiences are called racial micro-aggressions (D. W. Sue et al., 2007). Recent research has shown that not only do ethnic minority students on predominantly White campuses perceive their campuses as unfavorable (Ancis et al., 2000), and report more discriminatory experiences on campus (Blume et al., 2011; Nadal, Griffin, et al., 2014; Rankin & Reason, 2005), but they also report significantly more negative mental health outcomes (Blume et al., 2011; Nadal, Griffin, et al., 2014).

Ethnic minority students are also susceptible to a unique stress beyond normative college stressors called minority status stress (Smedley et al., 1993). A significant positive relationship has been found between minority status stress and depression (Wei et al., 2010). In addition to this minority stress, ethnic minority students at predominantly

White universities may be vulnerable to stereotypes regarding their intellectual abilities (Steele & Aronson, 1995). Clance and Imes (1978) coined the term impostor phenomenon as an internal experience where one believes they are intellectually deficient and as such defines intellectual successes externally. Feeling like an impostor has also been associated with depressive symptoms (Austin et al., 2009).

Despite the research demonstrating that ethnic minority students at predominantly White universities report poorer mental health due to racial micro-aggressions (Nadal, Griffin, et al., 2014), minority status stress (Wei et al., 2010) and impostor feelings (Cokley et al., 2013) to date no studies have examined the link between racial micro-aggressions, impostor feeling and minority status stress on both mental and physical health outcomes for this population. This study sought to fill a gap in the literature by building upon previous research demonstrating the relationships between minority status stress, impostor feelings, psychological well-being and psychological distress (Cokley et al., 2013).

Impact of Campus Racial Climate on Health

Previous research has demonstrated the negative impact of racially charged climates in predominantly White universities (Blume et al., 2011; Johnson et al., 2014; Museus et al., 2008; Nadal, Griffin, et al., 2014). Not only is a negative perception of campus climate associated with a greater likelihood of leaving an institution (Johnson et al., 2014) and not completing one's degree (Museus et al., 2008), but experiencing racism and racial micro-aggressions on campus has been linked to poorer mental health outcomes (Nadal, Griffin, et al., 2014; Blume et al., 2011). It is plausible that ethnic minority students may question their merit or "belongingness" to their institution (Clance

& Imes, 1978; Smedley et al., 1993) and, indeed, consistent with recent research (Cokley et al., 2013) the current study found that ethnic minority students (Asian, African American and Latino/a) significantly differed in their perceptions of the campus climate, imposter feelings and mental health.

Specifically, African American students had the most negative perception of their campus climate, followed by Asian students and both groups significantly differed in their perceptions of the campus climate in comparison to White students. Asian students reported experiencing significantly more imposter feelings compared to White students. White students overall reported significantly better mental health (44.279) than African American (39.294), Asian (37.647) or Biracial students (36.071) but had a score comparable to Latino/a students (38.687). This result regarding mental health is similar to (Cokley et al., 2013) study where Asian American students reported higher psychological distress and lower psychological well being compared to African American and Latino/a students. In the current study Asian students also reported the lower scores on mental health compared to African American and Latino/a's. To measure psychological well being and psychological distress Cokley et al. (2013) used the mental health inventory-18 (MHI-18) (Viet & Ware, 1983) which consists of 4 subscales (anxiety, depression, loss of behavioral control and positive affect). The current study used the SF-36 (Ware & Sherbourne, 1992) as a measure of both mental and physical health. The SF-36 consists of 8 factors including: physical functioning, role limitations due to physical functioning, body pain, general health perceptions, vitality, social functioning, role limitations due to emotional functioning and mental health. The SF-36 and the MHI-18 share similar questions such as: How much time during the past 4 weeks: "Have you felt calm and

peaceful?” “ Been a very nervous person?” “Felt downhearted and blue?” “Have you felt tense or high strung?” and “Have been a happy person?” Given the overlap in question content it appears that both the SF-36 and the MHI-18 may be tapping into similar constructs (Viet & Ware, 1983; Ware & Sherbourne, 1992). Notably, there were no ethnic differences in perceptions of physical health. Compared to other studies using the SF-36 participants in the current study report of physical health was similar to those those reported by DeBerard and Masters (2014), who examined 307 undergraduate students (83% White, 7.3% Asian, 2.3% Hispanic and 1.3 African American), and Ghaedi, Tavoli, Bakhtiari, Melyani, and Sahragard (2010) who examined 202 college students and poorer than Kusic-Tepavcevic, Gazibara, Popovic, Trajkovic, and Pekmezovic (2013) who examined 1624 college students

The finding that African American students report a more negative perception of the campus climate is in line with research finding that African American students perceive significantly more racial conflict and racial-ethnic separation than Asian or White students (Ancis et al., 2000), significantly more interracial tension in the residence hall community (Ancis et al., 2000) significantly more environmental, race-related and intragroup stresses than Asians (Cokley et al., 2013) or Latino/a's (Brondolo et al., 2005), more frequent past year discrimination (Landrine, Klonoff, Corral, Fernandez, & Roesch, 2006) and more frequent lifetime discrimination (Landrine et al., 2006). African American students negative perception of their campus climate may be a result of greater experiences of racism and racial-ethnic separation on campus than experienced by their Asian or Latino/a peers. Research has found that Asian students high on interdependence were more vulnerable to depression if they held perfectionist tendencies (J. Yoon & Lau,

2008). Thus despite the positive stereotype of the “model minority” often placed on Asian students such expectations for performance may possibly increase imposter feelings if incongruent with the students’ self-concept. Asian students may feel more pressure to uphold a positive stereotype regarding their ethnic background (J. Yoon & Lau, 2008).

Racial Micro-aggressions, Minority Stress and Impostor Feelings

In addition to understanding the ways that ethnic minority students perceive their respective academic institutions, this study sought to understand the experiences that may relate to mental and physical health functioning. It was hypothesized that ethnic minority students experiencing more racial micro-aggressions, greater minority status stress and impostor feelings will also report lower scores on the mental and physical health scale and poorer academic performance. Relevant research has found that racial micro-aggressions (Nadal, Griffin, et al., 2014), impostor feelings (Austin et al., 2009) and minority status stress (Cokley et al., 2013; Wei et al., 2011) have all been linked to poorer mental health outcomes among ethnic minority populations, however the extent to which these difficult experiences relate to physical health and well-being has been ignored. In the current study it was found that increased minority status stress was associated with poorer mental and physical health functioning. Similarly, impostor feelings were also significantly associated with poorer mental health. Lastly, racial micro-aggressions were found to be significantly associated with poorer physical health functioning, academic performance (GPA), minority status stress, and impostor feelings.

The principal tenet of the bio-psycho-social model of racism (Clark et al., 1999) is that perception of a racist environmental stimulus leads to both psychological and

physiological stress responses. Additionally, the appraisal of the situation as racist along with the individuals coping resources is important in determining the impact of racism on psychological or physiological wellbeing (Clark et al., 1999). In the current study, impostor feelings and minority status stress was associated with poorer mental health wellbeing among ethnic minority students at PWI. Minority status stress has been shown to predict depressive symptoms above and beyond general stress in a college student population (Wei et al., 2010) and impostor feelings have been shown to predict psychological distress (Cokley et al., 2013). The internal nature of impostor feelings (Clance & Imes, 1978) likely plays a role in the strength of the relationship between such feelings and mental health. Minority status stress represents both internalized (uncertainty about their belongingness to the institution due to their ethnicity) and external experiences (direct experiences with overt racism and discrimination (Smedley et al., 1993)). This multidimensional measurement of minority status stress may explain why increased levels of minority status stress were related to both poorer mental and physical health and well-being.

Interestingly, with regards to physical health, minority status stress and impostor syndrome did not significantly predict physical health; however, greater experiences with racial micro-aggressions were a sig predictor of physical health. According to the biopsychosocial model (Clark et al., 1999), a physiological stress response is often triggered by toxic experiences of racial micro-aggressions and the repeated exposure to micro-aggressions takes a significant toll on physical health and well-being with long-term deleterious outcomes on immune, neuroendocrine and cardiovascular functioning (Clark et al., 1999). In a meta-analytic review of literature on perceived discrimination

and health, Pascoe and Richman (2009) discuss research findings indicating that increases in cardiovascular activity may lead to conditions such as high blood pressure over time. Ryan, Gee, and Laflamme (2006) found that perceived racial discrimination with associated with higher systolic blood pressure among African Americans, Latino/a immigrants and Black immigrants. Carlson and Chamerlain (2005) posit that health disparities research shift theoretical focus towards allostatic load (physiological wear and tear as a result of adaptation) which can better encapsulate the life course perspective of adaptive physiological processes.

Predictors of Mental and Physical Health for Ethnic Minority College Students

Determining factors that can predict mental and physical health functioning are important in addressing the mental and physical health concerns of the college student population. It was hypothesized that impostor feelings, minority status stress and racial micro-aggressions would predict mental and physical well-being above and beyond ethnic identity, social support and acculturation status for ethnic minority college students. The addition of racial micro-aggressions would significantly account for more of the variance in mental and physical health.

In the current study bicultural competence, campus climate, ethnic identity, impostor feelings and racial micro-aggressions were found to be significant predictors of mental health in ethnic minority college students. In fact, impostor feelings explained additional variance in mental health above and beyond that explained by racial micro-aggressions and minority status stress. This result is in line with Cokley et al. (2013) findings of impostor feelings predicting psychological well being and psychological distress above and beyond minority status stress. Given the negative (and even positive, “model

minority” stereotype for Asians) stereotypes that many ethnic minorities experience about their intelligence it is plausible that these students may often feel like “frauds” at their academic institution (Clance & Imes, 1978; Steele & Aronson, 1995). These students may attribute some external factor to their ability to pursue higher education such as “luck” or they made it in because their institution was just “filling a quota.” Impostor feelings (Clance & Imes, 1978) may represent pervasive internalized beliefs regarding one’s abilities, which are more stable in nature and may have more of an impact on mental health functioning in the academic context than transient stress experiences and micro-aggressions.

Conversely, only racial-micro-aggressions was significantly linked with physical health functioning. Some of the questions assessing for physical functioning included “Compared to one year ago, how would you rate your health in general now?” “How much bodily pain have you had during the past 4 weeks?” “I seem to get sick a little easier than other people” and “In general, would you say your health is...” Given the relationship between the perception of a racist event and health outcomes this finding is in line other research on perceived discrimination and health (Clark et al., 1999; Pascoe & Richman, 2009; Ryan et al., 2006). However this finding warrants further investigation to determine the specific physiological processes involved after the perception of an environmental racist stimulus. To date there is no research that has specifically examined the connection between racial micro-aggressions and physical health outcomes. However research on perceived discrimination has been found to be related to less stage 4 sleep and physical fatigue (Thomas, Bardwell, Ancoli-Israel, & Dimsdale, 2006), higher systolic blood pressure (Ryan et al., 2006), and other potentially long-term deleterious

outcomes on immune, neuroendocrine and cardiovascular functioning (Clark et al., 1999). In a review of the literature regarding racism and health (Paradies, 2006) discuss the stronger associations found between racism and mental health versus physical health. The author explains this finding by stating that racism may have a “lagged” effect on physical health that is mediated by mental health outcomes (Paradies, 2006).

Limitations and Future Directions

In interpreting the findings of the present study there are several limitations to take into consideration. The sample included Asian, African American and Latino/a students and did not include any students from other ethnic backgrounds (American Indian). The participants in this study come from a large southeast university and such we are not able to make generalizations for all ethnic minority students. There may be elements of the experience at the particular institution that may differ from experiences other ethnic minority students have at other predominantly White universities. Additionally, many of the participants in the study were obtained through the college of education on campus and thus there may be characteristics of this student sample that may be different than other student samples. Another limitation of the study is the variability in sample size across the ethnic minority groups included in the study. Future research would benefit from replicating this study with a larger Latino/a sample. It is also important to consider that there may be other mediating (such as coping, for example) and moderating variables that may help to explain the connections between these variables. Lastly, given the amount of measures participants were asked to complete many participants did not complete all survey measures.

Implications for the Counseling Profession

This research has important implications for psychologists and college administrators. Despite efforts to enroll more ethnic minority college students, it is clear from this study that there are experiences these students are having while on campus which make it difficult to be personally and academically successful. Ethnic minority students as a whole are reporting significantly poorer mental health (38.19 vs. 44.28), and those reporting more racial micro-aggressions report a lower GPA ($r = -.134$). Given the reluctance of ethnic minorities to seek out mental health care (Masuda et al., 2009; Narrow et al., 2000; S. Sue, Fujino, Hu, Takeuchi, & Zane, 1991) and particularly in response to experiences of racism (Carter & Forsyth, 2010) if an ethnic minority student does seek care it will be important to address what role (if any) minority status stressors play in their presenting concerns and to invite conversations about experiences of racial micro-aggressions. Additionally it is important for college counseling centers and universities to continue to provide resources and outlets of support for ethnic minority students. It may be important to share with clients the bio-psycho-social model of health and the relationship between mental health and physical health. To prevent the attrition of ethnic minority students from predominantly White universities it would be helpful to develop a means of tracking student populations who may be at the highest risk such as ethnic minority students. Reaching out and providing additional support when the student gets to campus may help them to build a sense of connection and belonging to the university.

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Table 1*Demographic Information of Survey Participants*

Variable		Frequency	Percent (%)
<i>Gender</i>	Male	178	26.1
	Female	503	73.9
<i>Ethnicity</i>	Hispanic or Latino/a	43	6.3
	Black or African American	157	23
	Asian/Pacific Islander	87	12.8
	White	340	49.9
	Biracial	42	6.2
	Other/Multiracial	13	1.9
<i>Year in School</i>	Freshman	69	10.1
	Sophomore	97	14.2
	Junior	194	28.4
	Senior	323	47.3
<i>SES^a</i>	Poor	16	2.4
	Working Class	85	12.5
	Middle Class	281	41.3
	Upper Middle Class	269	39.6
	Wealthy	29	4.3
<i>Campus Organizations</i>	1	221	32.6
	2	215	31.8
	3	157	23.2
	4	52	7.7
	5	16	2.4
	5+	16	2.4
<i>Income: Self</i>	<10 ^c	534	71.9
	10-20	41	5.5
	20-30	10	1.3
	30-40	7	.9
	40-60	7	.9
	>60	29	3.9

Table 1 continued*Demographic Information of Survey Participants*

Variable		Frequency	Percent (%)	
<i>Income: Family</i>	<10 ^c	26	3.5	
	10-20	41	5.5	
	20-30	57	7.7	
	30-40	70	9.4	
	40-60	114	15.3	
	>60	403	54.2	
<i>Education: Mother</i>	Elementary	23	3.1	
	Some High School	21	2.8	
	High School Diploma	31	4.2	
	Trade School	38	5.1	
	Some College	88	11.8	
	Associate's Degree	90	12.1	
	Bachelor's Degree	24	3.2	
	Some Graduate School	40	5.4	
	Graduate Degree	89	12	
<i>Education: Father</i>	Elementary	82	11.0	
	Some High School	73	9.8	
	High School Diploma	45	6.1	
	Trade School	242	32.6	
	Some College	217	29.2	
	Associate's Degree	37	5.0	
	Bachelor's Degree	39	5.2	
	Some Graduate School	142	19.1	
	Graduate Degree	191	25.7	
		<i>Mean</i>	<i>SD</i>	<i>Range</i>
<i>Age</i>		20.78	1.729	18-49
<i>GPA^b</i>		3.34	11.493	1.86-4.10

Table 2

Demographic Information by Ethnicity of Survey Participants

Variable	Latino/a		African American		Asian American		White	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
<i>Gender</i>								
Male	16	37.2	43	27.4	23	26.4	82	24.1
Female	27	62.8	114	72.6	64	73.6	256	75.3
<i>Year in School</i>								
Freshman	10	23.3	24	15.3	14	16.1	11	3.2
Sophomore	7	16.3	28	17.8	19	21.8	31	9.1
Junior	10	23.3	47	29.9	26	29.9	95	9.1
Senior	16	37.2	58	36.9	28	32.2	95	27.9
Poor	1	2.3	8	5.1	4	4.6	2	.6
Working Class	13	30.2	32	20.4	18	20.7	14	4.1
Middle Class	21	48.8	87	55.4	39	44.8	111	32.6
Upper Middle Class	6	14	28	17.8	25	28.7	187	55
Wealthy	2	4.7	2	1.3	0	0	24	7.1
<i>Campus Organizations</i>								
1	16	37.2	41	26.1	27	31	115	33.8
2	9	20.9	50	31.8	31	35.6	111	32.6
3	13	30.2	36	22.9	15	17.2	79	23.2
4	3	7	21	13.4	4	4.6	22	6.5
5	0	0	3	1.9	3	3.4	8	2.4
5+	1	2.3	4	2.5	5	5.7	4	1.2
Income: Self								
<10 ^c	30	69.8	120	76.4	62	71.3	277	81.5
10-20	5	11.6	13	8.3	5	5.7	15	4.4
20-30	1	2.3	2	1.3	3	3.4	3	.9
30-40	0	0	4	2.5	1	1.1	2	.6
40-60	1	2.3	0	0	4	4.6	2	.6
>60	1	2.3	6	3.8	2	2.3	18	5.3

Table 2 continued

Demographic Information by Ethnicity of Survey Participants

<i>Variable</i>	<i>Latino/a</i>			<i>African American</i>			<i>Asian American</i>			<i>White</i>		
	<i>Frequency</i>	<i>Percent</i>	<i>SD</i>	<i>Frequency</i>	<i>Percent</i>	<i>SD</i>	<i>Frequency</i>	<i>Percent</i>	<i>SD</i>	<i>Frequency</i>	<i>Percent</i>	<i>SD</i>
<i>Income: Family</i>												
<10 ^c	1	2.3		5	3.2		6	6.9		14	4.1	
10-20	6	14		9	5.7		9	10.3		16	4.7	
20-30	5	11.6		19	12.1		8	9.2		21	6.2	
30-40	8	18.6		19	12.1		13	14.9		24	7.1	
40-60	8	18.6		41	26.1		14	16.1		39	11.5	
>60	16	37.2		62	39.5		38	43.7		257	75.6	
<i>Education: Mother</i>												
Elementary	2	9.3		6	3.8		6	6.9		8	2.4	
Some High School	4	7		5	3.2		3	3.4		8	2.4	
High School Diploma	3	11.6		6	3.8		13	14.9		9	2.6	
Trade School	5	25.6		12	7.6		9	10.3		11	3.2	
Some College	11	23.3		17	10.8		12	13.8		41	12.1	
Associate's Degree	10	2.3		29	18.5		16	18.4		27	7.9	
Bachelor's Degree	1	4.7		10	6.4		0	0		12	3.5	
Some Graduate School	2	16.3		12	7.6		3	3.4		19	5.6	
Graduate Degree	7	9.3		24	15.3		7	8		39	11.5	
<i>Education: Father</i>												
Elementary	2	4.7		33	21		11	12.6		32	9.4	
Some High School	2	4.7		25	15.9		10	11.5		30	8.8	
High School Diploma	2	4.7		12	7.6		7	8		19	5.6	
Trade School	11	25.6		46	29.3		19	21.8		152	44.7	
Some College	7	16.3		40	25.5		26	29.9		130	38.2	
Associate's Degree	1	2.3		10	6.4		1	1.1		23	6.8	
Bachelor's Degree	3	7		7	4.5		5	5.7		21	6.2	
Some Graduate School	5	11.6		36	22.9		21	24.1		67	19.7	
Graduate Degree	8	18.6		26	16.6		26	29.9		115	33.8	
<i>Age</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>Mean</i>	<i>SD</i>	<i>SD</i>
	20.50	1.534	20.42	20.62	1.25	20.62	21.11	1.68	21.11	21.11	1.94	
<i>GPA^b</i>	3.51	.352	3.19	3.34	.418	3.34	3.38	.404	3.38	3.38	.346	

Table 3*Descriptive Statistics of Main Variables*

Measure	M	SD	Range	N
Minority Status Stress	112.14	34.29	32-222	265
Impostor Feelings	58.24	13.52	20-97	502
Racial Micro-aggressions	96.13	35.42	45-213	232
Campus Climate	21.44	3.84	9-30	517
Ethnic Identity	20.30	5.51	6-30	515
Social Support	4.18	.74	1.68-5	494
Bicultural Self-Efficacy	177.31	28.00	104-234	512
Physical Functioning	85.57	27.09	0-100	522
Role limitations due to physical concerns	84.94	29.08	0-100	533
Bodily Pain	82.58	18.70	22.50-100	528
General Health	67.90	18.49	10-100	531
Energy/Fatigue	50.29	19.41	0-100	532
Social Functioning	75.61	22.74	12.5-100	500
Role limitations due to emotional concerns	60.23	43.67	0-100	533
Psychological Well Being	64.54	18.56	4-100	530
Physical Composite Score	53.55	8.23	28.06-69.62	500
Mental Health Composite Score	41.83	12.32	8.81-66.44	503

Table 4

Means by Ethnicity of Main Variables

Measure	Latino Am.		African Am.		Asian Am.		White	
	Mean	N	Mean	N	Mean	N	Mean	N
Minority Status Stress	112.95 (3.05)	29	119.55* (3.31)	122	103.93 (2.80)	61		
Impostor Feelings	61.90 (3.06)	27	58.09 (2.90)	93	64.04** (3.20)	51	56.60 (2.83)	305
Racial Micro-aggressions	98.34	37	101.80	104	90.14	63		
Campus Climate	20.50	26	19.00**	94	20.14**	55	22.43	313
Ethnic Identity	20.50	26	22.57**	94	21.59**	57	19.35	309
Social Support	3.88	22	3.82**	85	4.15	55	4.13	303
Bicultural Self-Efficacy	177.88	26	167.12**	96	173.92	55	180.89	306
Physical Functioning	79.28	28	81.85	96	79.36*	55	88.51	310
Role limitations due to physical concerns	79.31	29	80.80	99	80.80	56	87.93	317
Bodily Pain	85.89	28	79.19	99	80.39	57	83.30	313
General Health	73.57	28	65.05	100	64.28	56	68.76	315
Energy/Fatigue	47.93	29	43.28**	99	44.19**	56	54.71	317
Social Functioning	65.18**	28	70.02**	97	68.64	56	80.04	317
Role limitations due to emotional concerns	49.43	28	56.33	97	47.62	56	66.46	316
Psychological Well Being	57.79*	28	59.80**	97	58.88	57	68.53	316
Physical Composite Score	53.84	28	52.24	90	52.44	51	53.68	302
Mental Health Composite Score	37.46*	28	38.79**	90	39.18	51	44.25	304

* p < .05, ** p < .01

Table 5*MANOVA of Campus Satisfaction, Impostor Feelings, Mental Health and Physical Health by Ethnicity (White vs. Non-White*

Variable	Mean	F	df	p	Partial eta squared
	White (N= 297)	Ethnic Minority (N = 172)			
Campus Satisfaction**	22.48	19.99	1	.000	.10
Impostor Feelings**	56.29	60.81	1	.000	.03
Mental Health**	44.28	38.19	1	.000	.06
Physical Health	53.96	53.54	1	.586	.001

** p<.01

Table 6*Correlations Between Main Variables*

	1	2	3	4	5	6	N
Racial Micro-aggressions	--						232
Minority Status Stress	.611**	--					215
Impostor Feelings	.192**	.335**	--				185
Mental Health	-.071	-.277**	-.428**				189
Physical Health	-.227**	-.148*	.031	-.285**	--		188
GPA	-.134*	-.087	-.018	.089*	.050	--	225

Note: * $p < .05$, ** $p < .01$

Table 7

Correlations Between Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
RM	--																	
MSS	.61**	--																
IP	.19**	.33**	--															
MH	-.07	-.27**	-.42**	--														
PH	-.22**	-.14*	.03	-.28**	--													
GPA	-.13*	-.08	-.01	.08*	.05	--												
CC	-.26**	-.41**	-.22**	.23**	.10*	.07	--											
EI	.23**	.21**	-.11*	.00	-.02	-.02	.06	--										
SS	-.25**	-.22**	-.21**	.20**	.06	.13**	.48**	.18**	--									
BC	-.19**	-.35**	-.17**	.22**	.04	.05	.39**	.20**	.37**	--								
PF	-.20**	-.13	-.09*	-.04	.74**	.07	.09*	-.03	.08	.06	--							
RP	-.11	-.12**	-.12**	.15**	.66**	-.00	.15**	-.04	.06	.06	.41**	--						
RE	-.05	-.14*	-.33**	.83**	-.11*	.06	.13**	-.01	.06	.11*	.16**	.30**	--					
VT	-.03	-.17*	-.35**	.71**	.02	.06	.23**	-.02	.20**	.13**	.14**	.21**	.45**	--				
MH	-.17*	-.29**	-.45**	.84**	-.03	.06	.32**	.01	.31**	.30**	.18**	.26**	.56**	.67**	--			
SF	-.17*	-.23**	-.34**	.72**	.13**	.10*	.20**	.00	.18**	.20**	.25**	.41**	.63**	.50**	.61**	--		
BP	-.16*	-.21**	-.18**	.18**	.54**	.02	.19**	.04	.13**	.13**	.22**	.48**	.21**	.21**	.29**	.42**	--	
GH	-.11	-.12	-.25**	.34**	.39**	-.06	.16**	-.07	.15**	.19**	.15**	.36**	.28**	.35**	.42**	.42**	.393*	--

Note: *p < .05, **p < .01, MS=Minority Status Stress, RM=Racial Micro-aggressions, BC=Bicultural Self-Efficacy, CC=Overall Campus Satisfaction, EI=Ethnic Identity, SS= Social Support, IP= Impostor Feelings, PF=Physical Functioning, RP= Role limitations due to physical concerns, RE= Role limitations due to emotional concerns, VT=Energy/Fatigue, MH= Psychological Well Being, SF= Social Functioning, BP= Bodily Pain, GH= General Health, PH= Physical Composite Score, MH= Mental Health Composite Score

Table 8*Regression Analysis Predicting Mental Health Functioning for Ethnic Minority College Students*

Variable	B	SE B	β	t	df	R	R ²	F	ΔR^2	ΔF
Step 1	13.729	5.124		2.679	3, 282	.327	.107	11.144	.107	11.144**
Bicultural Competence	.086	.27	-.197	3.203**						
Ethnic Identity	-.157	.130	-.071	-1.209						
Campus Climate	.662	.181	.217	3.664**						
Step 2	20.753	6.421		3.232	4, 282	.343	.117	9.238	.010	3.249**
Bicultural Competence	.071	.028	.163	2.537*						
Ethnic Identity	-.088	.135	-.040	-.650						
Campus Climate	.568	.187	.186	3.031*						
Minority Status Stress	-.037	.020	-.116	-1.803						
Step 3	38.859	7.073		5.494	5, 282	.441	.195	13.408	.078	26.676**
Bicultural Competence	.067	.027	.153	2.501*						
Ethnic Identity	-.222	.132	-.100	-1.683						
Campus Climate	.455	.181	.149	2.516*						
Minority Status Stress	-.011	.020	-.036	-.566						
Impostor Feelings	-.248	.048	-.301	-						
Step 4	37.132	7.093		5.165**	6, 282	.454	.206	11.922	.011	3.812**
Bicultural Competence	.070	.027	.160	2.620**						
Ethnic Identity	-.267	.133	-.121	-2.005*						
Campus Climate	.479	.180	.157	2.658**						
Minority Status Stress	-.029	.022	-.091	-1.314						
Impostor Feelings	-.253	.048	-.306	-						
Racial Micro-aggressions	.041	.021	.125	5.276**						
				1.952*						

p < .05, ** *p* < .01

Table 9

Regression Analysis Predicting Physical Health Functioning for Ethnic Minority College Students

Variable	B	SE B	β	t	df	R	R ²	F	ΔR^2	ΔF
Step 1	51.414	3.984		12.906	3, 282	.055	.003	.284	.003	.284
Bicultural Competence	-.001	.021	-.002	-.032						
Ethnic Identity	-.029	.101	-.018	-.286						
Campus Climate	.120	.141	.54	.855						
Step 2	57.378	4.987		11.507	4, 282	.130	.017	1.186	.014	3.884
Bicultural Competence	-.013	.022	-.042	-.615						
Ethnic Identity	.030	.105	.018	.286						
Campus Climate	.040	.146	.018	.276						
Minority Status Stress	-.031	.016	-.133	-1.971*						
Step 3	53.892	5.736		9.936	5, 282	.149	.022	1.251	.005	1.503
Bicultural Competence	-.013	.022	-.039	-.579						
Ethnic Identity	.056	.107	.034	.522						
Campus Climate	.062	.147	.028	.424						
Minority Status Stress	-.036	.016	-.154	-2.212*						
Impostor Feelings	.048	.039	.079	1.226						
Step 4	55.860	5.713		9.777	6, 282	.220	.048	2.338	.026	7.623**
Bicultural Competence	-.016	.021	-.050	-.741						
Ethnic Identity	.107	.107	.066	1.000						
Campus Climate	.034	.145	.015	.236						
Minority Status Stress	-.016	.018	-.069	-.921						
Impostor Feelings	.053	.039	.087	1.367						
Racial Micro-aggressions	-.047	.017	-.193	-2.761**						

* $p < .05$, ** $p < .01$

Table 10

Regression Analysis Predicting Mental Health Functioning for Latino/a Students

Variable	B	SE B	β	t	df	R	R ²	F	ΔR^2	ΔF
Step 1					3, 37	.720	.519	12.217	.519	12.217**
Bicultural Competence	-.35.564	14.255		-2.495						
Ethnic Identity	.030	.069	.059	.431						
Campus Climate	.264	.304	.104	.869						
	3.039	.610	.682	4.981**						
Step 2					4, 37	.720	.519	8.894	.000	.001**
Bicultural Competence	-.35.255	18.701		-1.885						
Ethnic Identity	.029	.072	.058	.406						
Campus Climate	.266	.316	.104	8.43						
Minority Status Stress	3.033	.663	.681	4.572**						
	-.001	.046	-.004	-.026						
Step 3					5, 37	.749	.561	8.170	.042	3.057**
Bicultural Competence	-9.403	23.406		-.402						
Ethnic Identity	.008	.071	.016	.115						
Campus Climate	.086	.323	.034	.266						
Minority Status Stress	2.642	.681	.593	3.878**						
Impostor Feelings	.021	.046	.068	.458						
	-.209	.119	-.267	-1.748						
Step 4					6, 37	.767	.589	7.395	.028	2.108**
Bicultural Competence	-8.358	23.022		-.363						
Ethnic Identity	.001	.070	.002	.016						
Campus Climate	-.012	.325	-.005	-.038						
Minority Status Stress	2.636	.670	.592	3.935**						
Impostor Feelings	-.028	.057	-.090	-.495						
Racial Micro-	-.237	.119	-.304	-1.993						
aggressions	.098	.068	.245	1.452						

* $p < .05$, ** $p < .01$

Table 11

Regression Analysis Predicting Physical Health Functioning for Latino/a Students

Variable	B	SE B	β	t	df	R	R ²	F	ΔR^2	ΔF
Step 1	55.459	14.836		3.738	3, 37	.070	.005	.056	.005	.056
Bicultural Competence	.002	.072	.006	.032						
Ethnic Identity	-.126	.317	-.068	-.398						
Campus Climate	.027	.635	.008	.043						
Step 2	68.248	19.144		3.565	4, 47	.193	.037	.320	.032	1.112
Bicultural Competence	-.017	.074	-.046	-.228						
Ethnic Identity	-.054	.323	-.029	-.167						
Campus Climate	-.230	.679	-.071	-.338						
Minority Status Stress	-.049	.047	-.218	-1.054						
Step 3	63.889	25.049		2.551	5, 37	.199	.040	.264	.002	.076
Bicultural Competence	-.013	.076	-.037	-.175						
Ethnic Identity	-.024	.346	-.013	-.068						
Campus Climate	-.164	.729	-.051	-.225						
Minority Status Stress	-.053	.049	-.235	-1.075						
Impostor Feelings	.035	.128	.062	.275						
Step 4	62.379	23.940		2.606	6, 37	.389	.151	.919	.111	4.068
Bicultural Competence	-.003	.073	-.008	-.042						
Ethnic Identity	.118	.338	.064	.350						
Campus Climate	-.155	.696	-.048	-.222						
Minority Status Stress	.018	.059	.079	.304						
Impostor Feelings	.076	.124	.135	.616						
Racial Micro- aggressions	-.142	.070	-.489	-2.017						

* $p < .05$, ** $p < .01$

Table 12

Regression Analysis Predicting Mental Health Functioning for African American Students

Variable	B	SE B	β	t	df	R	R ²	F	ΔR^2	ΔF
Step 1	24.802	7.763		3.195	3, 128	.261	.068	3.051	.068	3.051*
Bicultural Competence	.013	.040	.030	.330						
Ethnic Identity	-.037	.196	-.016	-.188						
Campus Climate	.665	.228	.255	2.914**						
Step 2	31.789	9.564		3.324	4, 128	.282	.080	2.686	.012	1.551*
Bicultural Competence	.001	.041	.003	.025						
Ethnic Identity	.001	.197	.001	.006						
Campus Climate	.586	.236	.224	2.478*						
Minority Status Stress	-.036	.029	-.116	-1.245						
Step 3	41.294	10.375		3.980	5, 128	.338	.114	3.172	.034	4.787*
Bicultural Competence	.003	.040	.007	.080						
Ethnic Identity	-.095	.199	-.044	-.477						
Campus Climate	.517	.235	.198	2.201*						
Minority Status Stress	-.016	.030	-.052	-.537						
Impostor Feelings	-.151	.069	-.204	-2.188*						
Step 4	38.188	10.421		3.665	6, 128	.371	.138	3.242	.023	43.295**
Bicultural Competence	.009	.040	.020	.222						
Ethnic Identity	-.178	.203	-.082	-.879						
Campus Climate	-.584	.236	.224	2.478*						
Minority Status Stress	-.032	.031	-.104	-1.042						
Impostor Feelings	-.167	.069	-.225	-2.425*						
Racial Micro-aggressions	.055	.031	.176	1.815						

* $p < .05$, ** $p < .01$

Table 13

Regression Analysis Predicting Physical Health Functioning for African American Students

Variable	B	SE B	β	t	df	R	R ²	F	ΔR^2	ΔF
Step 1	54.038	6.310		8.564	3, 128	.104	.011	.459	.011	.459
Bicultural Competence	-.032	.032	-.091	-.976						
Ethnic Identity	.031	.159	.018	.193						
Campus Climate	.147	.185	.071	.792						
Step 2	59.222	7.782		7.610	4, 128	.145	.021	.668	.010	1.290
Bicultural Competence	-.041	.033	-.117	-1.220						
Ethnic Identity	.059	.161	.034	.366						
Campus Climate	.088	.192	.043	.459						
Minority Status Stress	-.027	.024	-.109	-1.136						
Step 3	57.885	8.600		6.731	5, 128	.149	.022	.558	.001	.138
Bicultural Competence	-.041	.033	-.118	-1.224						
Ethnic Identity	.072	.165	.042	.438						
Campus Climate	.098	.195	.048	.503						
Minority Status Stress	-.030	.025	-.121	-1.191						
Impostor Feelings	.021	.057	.036	.371						
Step 4	57.868	8.754		6.611	6, 128	.149	.022	.461	.000	.000
Bicultural Competence	-.041	.034	-.118	-1.215						
Ethnic Identity	.072	.170	.042	.422						
Campus Climate	.098	.198	.048	.496						
Minority Status Stress	-.030	.026	-.121	-1.139						
Impostor Feelings	.021	.058	.036	.365						
Racial Micro-aggressions	.000	.026	.001	.012						

p < .05, ** *p* < .01

Table 14

Regression Analysis Predicting Mental Health Functioning for Asian American Students

Variable	B	SE B	β	t	df	R	R ²	F	ΔR^2	ΔF
Step 1	7.975	8.311		.960	3, 68	.504	.254	7.362	.254	7.362
Bicultural Competence	.196	.047	-.528	4.175**						
Ethnic Identity	-.463	.247	-.234	-1.873						
Campus Climate	.349	.361	.114	.967						
Step 2	4.068	11.358		.358	4, 68	.507	.257	5.523	.003	.258
Bicultural Competence	.206	.051	.556	4.016**						
Ethnic Identity	-.510	.265	-.258	-1.922						
Campus Climate	.388	.371	.127	1.046						
Minority Status Stress	.023	.045	.063	.508						
Step 3	24.566	13.138		1.870	5, 68	.580	.336	6.382	.080	7.558
Bicultural Competence	.197	.049	.530	4.010**						
Ethnic Identity	-.610	.255	-.309	-2.391*						
Campus Climate	.311	.354	.102	.878						
Minority Status Stress	.045	.043	.124	1.043						
Impostor Feelings	-.272	.099	-.302	-2.749**						
Step 4	23.399	13.343		1.754	6, 68	.583	.340	5.327	.004	.370
Bicultural Competence	.197	.049	.531	3.997**						
Ethnic Identity	-.624	.258	-.316	-2.423*						
Campus Climate	.319	.356	.104	.897						
Minority Status Stress	.030	.050	-.084	.609						
Impostor Feelings	-.267	.100	-.296	-2.668**						
Racial Micro- aggressions	.027	.044	.076	.609						

* $p < .05$, ** $p < .01$

Table 15

Regression Analysis Predicting Physical Health Functioning for Asian American Students

Variable	B	SE B	β	t	df	R	R ²	F	ΔR^2	ΔF
Step 1	51.598	7.249		7.118	3, 68	.034	.001	.025	.001	.025
Bicultural Competence	.011	.041	.040	.271						
Ethnic Identity	-.034	.215	-.022	-.156						
Campus Climate	-.018	.315	-.008	-.056						
Step 2	57.085	9.875		5.781	4, 68	.108	.012	.187	.010	.674
Bicultural Competence	-.003	.045	-.012	-.074						
Ethnic Identity	.033	.231	.022	.142						
Campus Climate	-.072	.322	-.031	-.223						
Minority Status Stress	-.032	.039	-.116	-.821						
Step 3	49.763	11.979		4.154	5, 68	.172	.029	.382	.018	1.160
Bicultural Competence	.000	.045	.000	.002						
Ethnic Identity	.069	.233	.046	.295						
Campus Climate	-.045	.323	-.019	-.138						
Minority Status Stress	-.040	.039	-.146	-1.010						
Impostor Feelings	.097	.090	.142	1.077						
Step 4	53.021	11.857		4.472	6, 68	.289	.084	.942	.054	3.657
Bicultural Competence	-.001	.044	-.003	-.022						
Ethnic Identity	.106	.229	.071	.465						
Campus Climate	-.068	.317	-.029	-.215						
Minority Status Stress	.001	.044	.005	.032						
Impostor Feelings	.082	.089	.120	.919						
Racial Micro-aggressions	-.074	.039	-.280	-1.912						

* $p < .05$, ** $p < .01$.

APPENDIX A

Informed Consent Document

Dear Student,

I am a graduate student under the direction of Dr. Bernadette Heckman in the Department of Counseling and Human Development Services at The University of Georgia. I invite you to participate in a research study entitled Impact of the Mental and Physical Health of College Students. The purpose of this study is to investigate how college students perceive themselves in the academic environment and what impact those perceptions have on their mental and physical health. To participate in this study you must be 18 years of age and a currently enrolled undergraduate student.

Your participation will involve filling out basic demographic information and completing measures regarding different experiences as a college student including your mental and physical health and should only take about less than 1 hour. Your involvement in the study is voluntary, and you may choose not to participate or to stop at any time without penalty or loss of benefits to which you are otherwise entitled. If you decide to withdraw from the study, the information that can be identified as yours will be kept as part of the study and may continue to be analyzed, unless you make a written request to remove, return, or destroy the information. Your decision whether or not to participate in this research will not impact your grades or class standing. If you choose to participate in this study and are enrolled in specified courses in the Department of Counseling and Human Development Services, there is a policy that students are required to complete 3.0 credit hours of research participation. You may complete this requirement through (a) participation in research projects, or (b) writing summaries of

articles in the professional literature of counseling, education, and/or psychology. For participating in this study you will receive 1 credit hour towards the research requirement in your ECHD course.

Participating in this study may ask you to think about difficult issues but should be no more stressful than typical daily activities. If you experience discomfort you may contact the investigators about your concerns. Additionally, a list of community referral resources will be provided to you at the end of the study. You are free to skip any question that you do not wish to answer or that makes you feel uncomfortable. There is a limit to the confidentiality that can be guaranteed due to the technology itself. Specifically, no guarantees can be made regarding the interception of data sent via the Internet by any third parties. Records identifying participants will be kept confidential unless otherwise required by law. Records will not be made publicly available. However, federal government regulatory agencies, auditing departments of University of Georgia, and the UGA Institutional Review Board (a committee that reviews and approves research studies with human subjects) may inspect and/or copy your records for quality assurance and analysis. These records may contain sensitive information.

To ensure confidentiality to the extent allowed by law, precautions will be taken to protect your privacy including: combining your data with the data collected from other participants so that no individual information will be directly identifiable. The researchers will be able to link your identity to your research data through use of a master list or code key. The master list will be destroyed after all data collection has been completed. All data that can be identified as yours will be stored in password protected computer files. The results of the research study may be published, but your name or any identifying

information will not be used. In fact, the published results will be presented in summary form only. While there are no direct benefits for participating in this project, the findings from this project may provide information on knowledge that can be helpful to clinicians, teachers and administrators in understanding how college students view themselves and their abilities.

If you have any questions about this research project, please feel free to contact Dr. Bernadette Heckman at bheckman@uga.edu or at 706-542-4792. Questions or concerns about your rights as a research participant should be directed to The Chairperson, University of Georgia Institutional Review Board, 609 Boyd GSRC, Athens, Georgia 30602; telephone (706) 542-3199; email address irb@uga.edu.

Sincerely,

Asale Hubbard M.S.

By completing the survey you are agreeing to participate in the research.

I would like to participate in this study

APPENDIX B
RECRUITMENT E-MAIL

Hello,

I am a graduate student under the direction of Dr. Bernadette Heckman in the Department of Counseling and Human Development Services at The University of Georgia. I invite you to participate in a research study entitled Impact of the Mental and Physical Health of College Students. The purpose of this study is to investigate how college students perceive themselves in the academic environment and what impact those perceptions have on their mental and physical health. To participate in this study you must be 18 years of age and a currently enrolled undergraduate student. I thank you in advance your willingness to participate in this very brief study.

Link to Study:

In this study you will be presented with online questions including demographic questions in regards to your experience on campus. Participation is voluntary and will last less than 1 hour.

Participating in this study may ask you to think about difficult issues but should be no more stressful than typical daily activities. Your participation in this study is completely voluntary and you may refuse to participate. If you decide to not participate in the study, it will not result in any penalty. If you choose to participate in this study and are enrolled in specified courses in the Department of Counseling and Human Development Services you will receive 1 credit hour towards the research requirement in your ECHD course.

To ensure confidentiality to the extent allowed by law, precautions will be taken to protect your privacy including: combining your data with the data collected from other participants so that no individual information will be directly identifiable. The results of the research study may be published, but your name or any identifying information will not be used. In fact, the published results will be presented in summary form only.

This study has been approved by the Institutional Review Board. If you have any questions about this research project, please feel free to contact Dr. Bernadette Heckman at bheckman@uga.edu or at 706-542-4792. Questions or concerns about your rights as a research participant should be directed to The Chairperson, University of Georgia Institutional Review Board, 609 Boyd GSRC, Athens, Georgia 30602; telephone (706) 542-3199; email address irb@uga.edu.

Link to Study:

Thank you,

Asale Hubbard, M.S.

APPENDIX C

REMINDER RECRUITMENT E-MAIL

Hello,

I am a graduate student under the direction of Dr. Bernadette Heckman in the Department of Counseling and Human Development Services at The University of Georgia. You were recently sent an e-mail asking for your participation in an online study. I am sending this e-mail to remind you about the study should you wish to participate. The purpose of this study is to investigate how college students perceive themselves in the academic environment and what impact those perceptions have on their mental and physical health. To participate in this study you must be 18 years of age and a currently enrolled undergraduate student. I thank you in advance your willingness to participate in this very brief study.

Link to Study-

In this study you will be presented with online questions including demographic questions in regards to your experience on campus. Participation is voluntary and will last less than 1 hour.

Participating in this study may ask you to think about difficult issues but should be no more stressful than typical daily activities. Your participation in this study is completely voluntary and you may refuse to participate. If you decide to not participate in the study, it will not result in any penalty. If you choose to participate in this study and are enrolled in specified courses in the Department of Counseling and Human Development Services you will receive 1 credit hour towards the research requirement in your ECHD course.

To ensure confidentiality to the extent allowed by law, precautions will be taken to protect your privacy including: combining your data with the data collected from other participants so that no individual information will be directly identifiable. The results of the research study may be published, but your name or any identifying information

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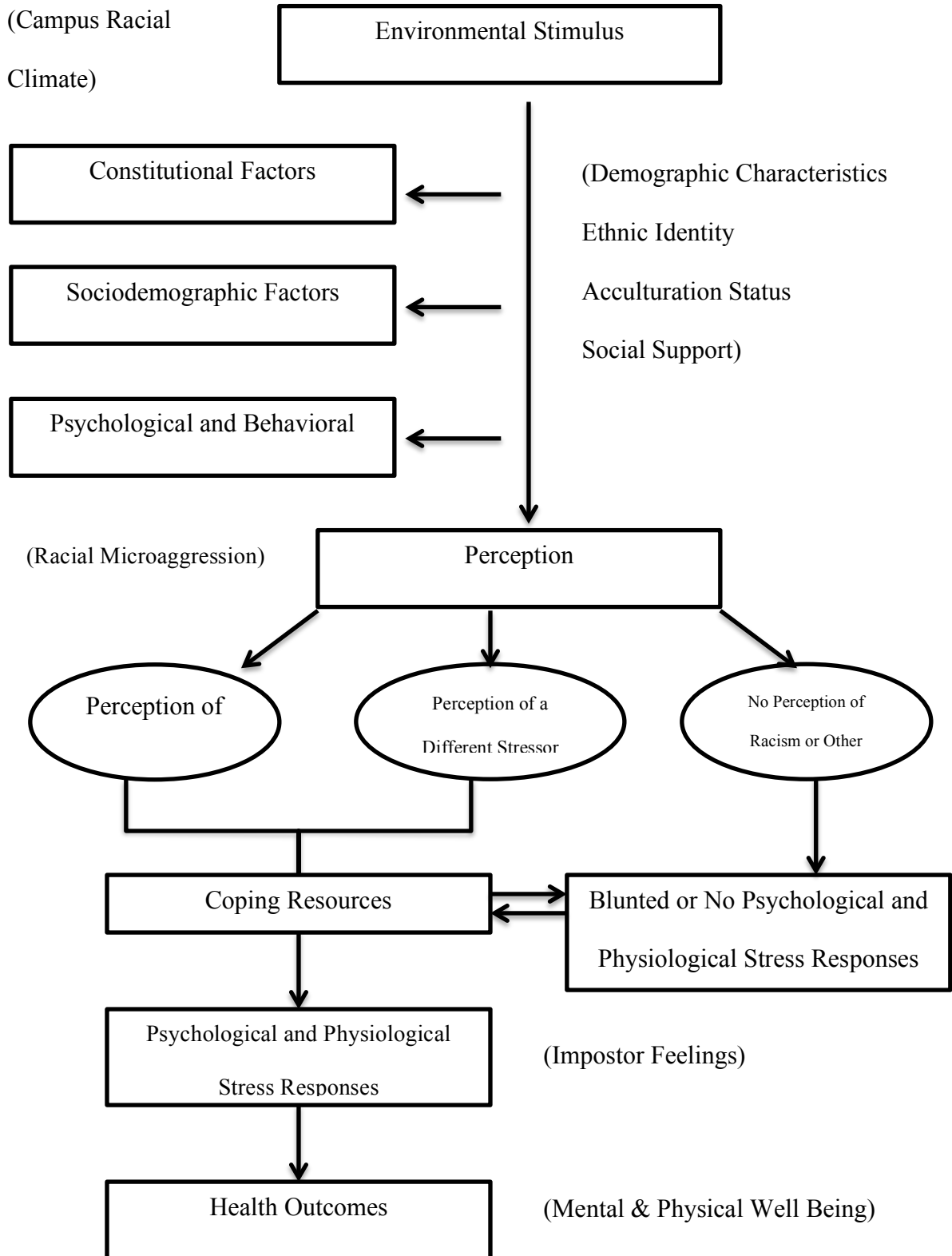
Link to Study-

Thank you,

Asale Hubbard M.S.

APPENDIX D

The Biopsychosocial Model of Perceived Racism (Clark et al., 1999)



APPENDIX E

Demographic Questionnaire

Please indicate your gender.

Male Female

How old are you? _____

Please indicate your ethnic background. Choose **only one** category.

Hispanic or Latino/a

Black or African American

Native American or American Indian

Asian/Pacific Islander

White

Biracial (Please Describe): _____/_____

Other (Please Describe): _____

What is your semester standing at the school (Freshman, Sophomore, Junior or Senior)?

What is your current grade point average? _____

What is your major? _____

What is the best estimate of your/your family's yearly income before taxes? Circle "Y"

for yours and "F" for family.

Less than \$10,000 Y F

Between \$10,000 and \$20,000 Y F

Between \$20,000 and \$30,000 Y F

Between \$30,000 and \$40,000 Y F

Between \$40,000 and \$60,000 Y F

Over \$60,000 Y F

What is the highest education level obtained by your mother (or female guardian) and father (or male guardian)? For mother, circle the "M" in the appropriate box; for father, circle the "F."

Elementary School M F

Some high school M F

High school diploma or equivalent M F

Associate or two-year degree M F

Bachelor's or four-year degree M F

Some graduate or professional school M F

Graduate or professional degree M F

How would you describe your family's socioeconomic status?

Poor Working Class Middle Class Upper Middle Class

Wealthy

How many campus organizations are you involved with?

1 2 3 4 5 5+

APPENDIX F

Minority Student Stress Scale (MSSS; (Smedley et al., 1993)

INSTRUCTIONS: Below is a list of statements that describe situation that may be stressful for some students. By “stressful” we mean that it bothers you or cause you problems in any way. Please circle the response that best indicates how stressful each situation have been for you since you have been at your college. Indicate “N/A if you DO NOT EXPERIENCE THE SITUATION AT ALL. Indicate “1” if you DO experience or recognize the situation but YOU DO NOT EXPERIENCE IT AS STRESSFUL AT ALL

0	1	2	3	4	5
N/A Does Not Apply	Not at all stressful	A little stressful for me	Somewhat stressful for me	Very stressful for me	Extremely stressful for me

1. My family does not understand the pressures of college (e.g. amount of time or quiet needed to study).
2. My family discourages me from spending my time going to college.
3. Being the first in my family to attend a major university.
4. Doubts about my ability to succeed in college.
5. My academic background preparation for college being inadequate.
6. White people expecting me to be a certain way because of my race (i.e. stereotyping).
7. Language-related problems (i.e., having an “accent” or “speaking non-standard English”).
8. Maintaining my ethnic identity while attending the university.
9. The lack of unity/supportiveness among members of my race at the university.
10. Being treated rudely or unfairly because of my race.

11. Being discriminated against.
12. Others lacking respect for people of my race.
13. Attitudes/treatment of faculty toward students of my race.
14. Having to “prove” my abilities to others (i.e. working twice as hard).
15. Pressures to show loyalty to my race (e.g. giving back to my ethnic group community).
16. White students and faculty expect poor academic performance from students of my race.
17. Pressures from people of my same race (e.g. how to act, what to believe).
18. People close to me thinking I’m acting “White.”
19. Feeling others do not respect my intelligence.
20. Having White friends.
21. Relationships between different ethnic groups at my university.
22. Having to always be aware of what White people might do.
23. White-oriented campus culture at my university.
24. Wealthy campus culture at my university.
25. The university is an unfriendly place.
26. Having to live around mostly White people.
27. Tense relationships between Whites and minorities at the university.
28. Few courses involve issues relevant to my ethnic group.
29. Racist policies and practices of the university.
30. My university lacks concern and support for the needs of students of my race.
31. The university does not have enough professors of my race.

32. Few students of my race are in my classes.
33. Seeing members of my race doing low status jobs and Whites in high status jobs on campus.
34. My family having very expectations for my college success.
35. Pressure that what “I” do is representative of my ethnic group’s abilities, behavior, and so on.
36. Feeling less intelligent or less capable than others.
37. Relationships between males and females of my race (e.g. lack of available dating partners).

APPENDIX G

Impostor Phenomenon Scale (CIPS; (Clance, 1985)

For each question, please click the number that best indicates how true the statement is of you. It is best to give the first response that enters your mind rather than dwelling on each statement and thinking about it over and over.

1	2	3	4	5
(not at all true)	(rarely)	(sometimes)	(often)	(very true)

1. I have often succeeded on a test or task even though I was afraid that I would not do well before I undertook the task.
2. I can give the impression that I'm more competent than I really am.
3. I avoid evaluations if possible and have a dread of others evaluating me.
4. When people praise me for something I've accomplished, I'm afraid I won't be able to live up to their expectations of me in the future.
5. I sometimes think I obtained my present position or gained my present success because I happened to be in the right place at the right time or knew the right people.
6. I'm afraid people important to me may find out that I'm not as capable as they think I am.
7. I tend to remember the incidents in which I have not done my best more than those times I have done my best.
8. I rarely do a project or task as well as I'd like to do it.
9. Sometimes I feel or believe that my success in my life or in my job has been the result of some kind of error.
10. It's hard for me to accept compliments or praise about my intelligence or accomplishments.

11. At times, I feel my success has been due to some kind of luck.
12. I'm disappointed at times in my present accomplishments and think I should have accomplished much more.
13. Sometimes I'm afraid others will discover how much knowledge or ability I really lack.
14. I'm often afraid that I may fail at a new assignment or undertaking even though I generally do well at what I attempt.
15. When I've succeeded at something and received recognition for my accomplishments, I have doubts that I can keep repeating that success.
16. If I receive a great deal of praise and recognition for something I've accomplished, I tend to discount the importance of what I've done.
17. I often compare my ability to those around me and think they may be more intelligent than I am.
18. I often worry about not succeeding with a project or examination, even though others around me have considerable confidence that I will do well.
19. If I'm going to receive a promotion or gain recognition of some kind, I hesitate to tell others until it is an accomplished fact.
20. I feel bad and discouraged if I'm not "the best" or at least "very special" in situations that involve achievement.

Note. From *The Impostor Phenomenon: When Success Makes You Feel Like A Fake* (pp. 20-22), by P.R. Clance, 1985, Toronto: Bantam Books. Copyright 1985 by Pauline Rose Clance, Ph.D., ABPP. Reprinted by permission. Do not reproduce without permission from Pauline Rose Clance, drpaulinrose@comcast.net, www.paulinroseclance.com.

APPENDIX H

Racial and Ethnic Microaggressions Scale (REMS; (Nadal, 2011)

Instructions: Think about your experiences with race. Please read each item and think of how many times this event has happened to you in the **PAST SIX MONTHS**.

1 = none of the time 2 = a little bit of the time 3 = some of the time 4 = a good bit of the time 5 = most of the time 6 = all of the time

1. I was ignored at school or at work because of my race.
2. Someone's body language showed they were scared of me, because of my race.
3. Someone assumed that I spoke a language other than English.
4. I was told that I should not complain about race.
5. Someone assumed that I grew up in a particular neighborhood because of my race.
6. Someone avoided walking near me on the street because of my race.
7. Someone told me that she or he was colorblind.
8. Someone avoided sitting next to me in a public space (e.g., restaurants, movie theaters, subways, buses) because of my race.
9. Someone assumed that I would not be intelligent because of my race.
10. I was told that I complain about race too much.
11. I received substandard service in stores compared to customers of other racial groups.
12. I observed people of my race in prominent positions at my workplace or school.
13. Someone wanted to date me only because of my race.
14. I was told that people of all racial groups experience the same obstacles.
15. My opinion was overlooked in a group discussion because of my race.
16. Someone assumed that my work would be inferior to people of other racial groups.

17. Someone acted surprised at my scholastic or professional success because of my race.
18. I observed that people of my race were the CEOs of major corporations.
19. I observed people of my race portrayed positively on television.
20. Someone did not believe me when I told them I was born in the US.
21. Someone assumed that I would not be educated because of my race.
22. Someone told me that I was “articulate” after she/he assumed I wouldn’t be.
23. Someone told me that all people in my racial group are all the same.
24. I observed people of my race portrayed positively in magazines.
25. An employer or co-worker was unfriendly or unwelcoming toward me because of my race.
26. I was told that people of color do not experience racism anymore.
27. Someone told me that they “don’t see color.”
28. I read popular books or magazines in which a majority of contributions featured people from my racial group.
29. Someone asked me to teach them words in my “native language.”
30. Someone told me that they do not see race.
31. Someone clenched her/his purse or wallet upon seeing me because of my race.
32. Someone assumed that I would have a lower education because of my race.
33. Someone of a different racial group has stated that there is no difference between the two of us.
34. Someone assumed that I would physically hurt them because of my race.
35. Someone assumed that I ate foods associated with my race/culture every day.
36. Someone assumed that I held a lower paying job because of my race.

37. I observed people of my race portrayed positively in movies.
38. Someone assumed that I was poor because of my race.
39. Someone told me that people should not think about race anymore.
40. Someone avoided eye contact with me because of my race.
41. I observed that someone of my race is a government official in my state
42. Someone told me that all people in my racial group look alike.
43. Someone objectified one of my physical features because of my race.
44. An employer or co-worker treated me differently than White co-workers.
45. Someone assumed that I speak similar languages to other people in my race.

APPENDIX I

Cultural Attitudes and Climate Questionnaire (CACQ; (Helm et al., 1998)

Participants respond to a 5-point Likert type scale, where “1” indicates “strongly disagree” and “5” indicates “strongly agree.” An “NA” category is also included in this Likert scale for items that may not be applicable to participants (e.g., residence hall tension items may be marked as “NA” for participants who have never lived in a residence hall).

Strongly Disagree				Strongly Agree
1	2	3	4	5
	NA			

Racial Tension

1. There is racial conflict on campus.
2. There is racial/ethnic separation on campus.
3. There are interracial tensions in the classroom.
4. I have been exposed to a racist atmosphere in the classroom.
5. I have been exposed to a racist atmosphere outside the classroom.
6. Students are resentful of others whose race/ethnicity is different from their own.

Cross-cultural Comfort

1. I am comfortable going to see a faculty member of my own race/ethnicity.
2. I am comfortable speaking with others about my racial/ethnic background.
3. I am comfortable being in situations where I am the only person of my racial/ethnic group.
4. I am comfortable saying what I think about racial/ethnic issues.
5. I am comfortable being with people whose racial/ethnic backgrounds are different from

my own.

6. I am comfortable being with people whose racial/ethnic backgrounds are the same as my own.

Diversity awareness

1. I now recognize culturally-biased behavior I had not previously identified.
2. I now discuss topics related to cultural awareness with friends.
3. I now stop myself from using language that may be offensive to others.
4. I now handle negative language used by another in such a way as to try to educate the other person.
5. I not initiate contact with people who are not of my culture or ethnic background.
6. My experiences since coming to the university have led me to become more understanding of racial/ethnic differences.

Racial Pressure

1. I feel there are expectations about my academic performance because of my race/ethnicity.
2. I feel pressured to participate in ethnic activities at the university.
3. I feel I need to minimize various characteristics of my racial/ethnic culture (e.g., language, dress) to be able to fit in at the university.
4. I feel I am expected to represent my race or ethnic group in discussions in class.

Residence Hall Tension

1. There are interracial tensions in residence halls.
2. University police treat me fairly.
3. Residence hall personnel treat me fairly.

4. I have been exposed to activities and programs in residence halls about the history, culture and/or social issues of racial and ethnic groups other than Whites.

5. I have been exposed to other university programs or activities about the history, culture and/or social issues of racial and ethnic groups other than Whites.

Fair Treatment

1. Faculty treat me fairly.

2. Teaching assistants treat me fairly.

3. Students treat me fairly.

Faculty Racism

1. I have often been exposed to a racist atmosphere created by faculty in the classroom.

2. I have often been exposed to a racist atmosphere created by faculty outside the classroom.

Respect for other cultures

1. Faculty respect students of different racial and ethnic groups.

2. Students respect other students of different racial and ethnic groups.

3. There is a great deal of friendships between students of different racial and ethnic groups.

Lack of support

1. I often have difficulty getting help or support from faculty.

2. I often have difficulty getting help or support from students.

3. I often have difficulty getting help or support from teaching assistants.

Comfort with own culture

1. I am comfortable speaking with others about my racial/ethnic background.

2. I am comfortable being in a situation where I am the only person of my racial/ethnic group.

Overall satisfaction

1. This university provides an environment for the free and open expression of ideas, opinions, and beliefs.

2. Overall, my educational experience at this university has been a rewarding one.

3. I would recommend this university to siblings or friends as a good place to go to college.

4. The overall quality of academic programs at this university is excellent.

5. I feel as though I belong in the university community.

APPENDIX J

Multigroup Ethnic Identity Measure—Revised (*MEIM—R*; (Phinney & Ong, 2007)

In this country, people come from many different countries and cultures, and there are many different words to describe the different backgrounds or *ethnic groups* that people come from. Some examples of the names of ethnic groups are Hispanic or Latino, Black or African American, Asian American, Chinese, Filipino, American Indian, Mexican American, Caucasian or White, Italian American, and many others. These questions are about your ethnicity or your ethnic group and how you feel about it or react to it.

	Strongly Disagree				Strongly Agree
I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.	1	2	3	4	5
I have a strong sense of belonging to my own ethnic group.	1	2	3	4	5
I understand pretty well what my ethnic group membership means to me.	1	2	3	4	5
I have often done things that will help me understand my ethnic background better.	1	2	3	4	5
I have often talked to other people in order to learn more about my ethnic group.	1	2	3	4	5
I feel a strong attachment towards my own ethnic group.	1	2	3	4	5

APPENDIX K

Medical Outcomes Study (MOS) Social Support Survey (SSS; (Sherbourne & Stewart,
1991)

People sometimes look to others for companionship, assistance, or other types of support.

How often is each of the following kinds of support available to you if you need it?

Response categories:

None of the time
A little of the time
Some of the time
Most of the time
All of the time

Emotional/informational support

1. Someone you can count on to listen to when you need to talk
2. Someone to give you information to help you understand a situation.
3. Someone to give you good advice about a crisis
4. Someone to confide in or talk to about yourself or your problems
5. Someone whose advice you really want
6. Someone to share your most private worries and fears with
7. Someone to turn to for suggestions about how to deal with a personal problem
8. Someone who understands your problems

Tangible Support

9. Someone to help you if you were confined to bed
10. Someone to take you to the doctor if you needed it
11. Someone to prepare your meals if you were unable to do it yourself
12. Someone to help with daily chores if you were sick

Affectionate Support

- 13. Someone who shows you love and affection
- 14. Someone to love you and make you feel wanted
- 15. Someone who hugs you

Positive Social Interaction

- 16. Someone to have a good time with
- 17. Someone to get together with for relaxation
- 18. Someone to do something enjoyable with

Additional item

- 19. Someone to do things with to help you get your minds off things.

APPENDIX L

Bicultural Self-Efficacy Scale (BSE; (David et al., 2009)

INSTRUCTIONS: Using the following 9-point scale, please answer each question as carefully as possible by choosing the number that corresponds best to your degree of agreement or disagreement with each statement.

1	2	3	4	5	6	7	8	9
Strongly Agree		Disagree		Neutral/Depends		Agree		Strongly Agree

1. An individual can alter his or her behavior to fit a particular social context.
2. I can communicate my feelings effectively to both mainstream Americans and people from the same heritage culture as myself.
3. I have generally positive feelings about both my heritage culture and mainstream American culture.
4. I can develop new relationships with both mainstream Americans as well as people from the same heritage culture as myself.
5. It is possible for an individual to have a sense of belonging in two cultures without compromising his or her sense of cultural identity.
6. I am knowledgeable about the holidays celebrated both by mainstream Americans and by my cultural group.
7. I can count on both mainstream Americans and people from the same heritage culture as myself.
8. I have strong ties with mainstream Americans as well as people from the same heritage culture as myself.

9. I can switch easily between Standard English and the language of my heritage culture.
10. It is acceptable for a mainstream American individual to participate in two different cultures.
11. I am knowledgeable about the values important to mainstream America as well as to my cultural group.
12. I feel comfortable attending a gathering of mostly mainstream Americans as well as a gathering of mostly people from the same heritage culture as myself.
13. Being bicultural does not mean I have to compromise my sense of cultural identity.
14. I have an extensive network of mainstream Americans as well as an extensive network of people from the same heritage culture as myself.
15. I have a generally positive attitude toward both mainstream Americans and my cultural group.
16. It is acceptable for an individual from my heritage culture to participate in two different cultures.
17. I feel at ease around both mainstream Americans and people from the same heritage culture as myself.
18. I feel like I fit in when I am with mainstream Americans as well as people from the same heritage culture as myself.
19. I am confident that I can learn new aspects of both the mainstream American culture and my heritage culture.
20. I can choose the degree and manner by which I affiliate with each culture.

21. I take pride in both the mainstream American culture and my heritage culture.
22. I am knowledgeable about the history of both mainstream America and my cultural group.
23. I can communicate my ideas effectively to both mainstream Americans and people from the same heritage as myself.
24. I am knowledgeable about the gender roles and expectations of both mainstream Americans and my cultural group.
25. I am proficient in both Standard English and the language of my heritage culture (e.g., Spanish, etc.).
26. I have respect for both mainstream American culture and my heritage culture.

APPENDIX M

The Short Form 36 Item Health Survey (SF-36; (Ware & Sherbourne, 1992)

GENERAL HEALTH:

In general, would you say your health is:

Excellent Very Good Good Fair Poor

Compared to one year ago, how would you rate your health in general now?

Much better now than one year ago

Somewhat better now than one year ago

About the same

Somewhat worse now than one year ago

Much worse than one year ago

LIMITATIONS OF ACTIVITIES:

The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

Responses: Yes, Limited a lot Yes, Limited a Little No, Not Limited at all

Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports.

Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf

Lifting or carrying groceries

Climbing several flights of stairs

Climbing one flight of stairs

Bending, kneeling, or stooping

Walking more than a mile

Walking several blocks

Walking one block

Bathing or dressing yourself

PHYSICAL HEALTH PROBLEMS:

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

Responses: Yes No

Cut down the amount of time you spent on work or other activities

Accomplished less than you would like

Were limited in the kind of work or other activities

Had difficulty performing the work or other activities (for example, it took extra effort)

EMOTIONAL HEALTH PROBLEMS:

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

Responses: Yes No

Cut down the amount of time you spent on work or other activities

Accomplished less than you would like

Didn't do work or other activities as carefully as usual

SOCIAL ACTIVITIES:

Emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?

Not at all Slightly Moderately Severe Very Severe

PAIN:

How much bodily pain have you had during the past 4 weeks?

None Very Mild Mild Moderate Severe Very Severe

During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

Not at all A little bit Moderately Quite a bit Extremely

ENERGY AND EMOTIONS:

These questions are about how you feel and how things have been with you during the last 4 weeks. For each question, please give the answer that comes closest to the way you have been feeling.

Responses

All of the time
Most of the time
A good Bit of the Time
Some of the time
A little bit of the time
None of the Time

Did you feel full of pep?

Have you been a very nervous person?

Have you felt so down in the dumps that nothing could cheer you up?

Have you felt calm and peaceful?

Did you have a lot of energy?

Have you felt downhearted and blue?

Did you feel worn out?

Have you been a happy person?

Did you feel tired?

SOCIAL ACTIVITIES:

During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with

your social activities (like visiting with friends, relatives, etc.)?

All of the time

Most of the time

Some of the time

A little bit of the time

None of the Time

GENERAL HEALTH:

How true or false is each of the following statements for you?

I seem to get sick a little easier than other people

Definitely true Mostly true Don't know Mostly false Definitely false

I am as healthy as anybody I know

Definitely true Mostly true Don't know Mostly false Definitely false

I expect my health to get worse

Definitely true Mostly true Don't know Mostly false Definitely false

My health is excellent

Definitely true Mostly true Don't know Mostly false Definitely false