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Credit the Parents? The Impact of Racial Socialization on African American Students' Stress-Related Coping and College Adjustment

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CREDIT THE PARENTS? THE IMPACT OF RACIAL SOCIALIZATION ON AFRICAN

AMERICAN STUDENTS' STRESS-RELATED COPING AND COLLEGE ADJUSTMENT

A thesis proposal submitted in partial fulfillment of the requirements for the degree of Master of

Science at Virginia Commonwealth University

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Acknowledgement

Firstly, I would like to praise God for bringing me this far in my academic career. When I was 14, a community healer predicted, "I would go to school, and never leave;" I am delighted she and Him knew my plans far ahead of me, and planted the seed that would grow into my love of learning. I do not take this chance to inspire and lead through my commitment to education lightly, and am glad I have made my parents' investment in and endorsement of my schooling worthwhile. Pledging to become the first doctor in my family was no small feat, but having a village of family, friends and mentors has made the task a journey from which I have been made a better person for embarking on.

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Abstract

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Psychology

Many new stressors emerge in college and have a significant impact on college adjustment. However, little is known about common stressors, their causes, and impact on college adjustment for students attending Historically Black Colleges and Universities (HBCUs). This project investigated the extent to which different college stressors impact sleep-related college adjustment, and whether racial socialization and emotion regulation strategies serve as coping strategies that moderate this relationship for HBCU students. The theoretical framework for the study was an adapted version of the Integrative Conceptual Model of Adaptive Socialization (ICMAS; Dunbar et al., 2017). Data were collected via an online survey from 187 students attending an HBCU. Participants reported the frequency of their experiences with different college stressors, the types of racial socialization messages they received from their parents, their

emotion regulation coping strategies, and their sleep-related college adjustment. Data were

analyzed using correlations, hierarchical multiple regressions, and moderation analyses. Results

indicated that frustration and self-imposed stressors were the most predominant types of stress

experienced by HBCU students. Frustration-related college stress significantly predicted

sleep-related college adjustment problems, including problematic sleep habits and negative

emotions that prevented adequate sleep. Results also indicate that the only socialization

messages that impacted sleep-related college adjustment were mainstream ideals. However,

moderation effects were not detected indicating the ICMAS model was not a good fit for the

data. Methodological and developmental considerations are discussed, and the importance of

future research investigating coping strategies specifically relevant to college students in the

culturally affirming context of an HBCU.

Vita

Briana Morgan Bouldin was born and raised in the Northern Virginia area, where she graduated

from C.D. Hylton High School (located in Woodbridge,VA) in 2014. Thereafter, she attended

Christopher Newport University, where she was a member of; the Memory and Cognition lab

under the auspices of Dr. Jeff Gibbons for 4 years (200+ research hours), the CNU Chapter of

Psi Chi (international psychology honor society) for 3 years, and the CNU Chapter of Omicron

Delta Kappa (national leadership honor society) for 2 years. During her stint in the Memory and

Cognition lab, she presented works at over 15 research sessions, and attended 3 major

conferences, including the; 2016 Southeastern Psychology Association (SEPA) annual meeting

in New Orleans, LA, and the 2016 and 2017 Mid-Atlantic Regional Conference(s) of

Undergraduate Scholarship (MARCUS) in Newport News and Sweet Briar, VA, respectively.

After graduating from CNU in May of 2018, she committed her long-term plans to higher

education and was accepted into the VCU Developmental Psychology Doctoral program and

attended in fall 2018. During this time, she has presented her works at 2 major conferences; both

the 2019 International Conference for Psychological Sciences (ICPS; Paris, France), and the

2019 Society for Research in Child Development (SRCD; Baltimore, MD) biennial meetings.

She was nominated for and accepted on the Committee for the Promotion of Equity, Diversity,

and Inclusion for the 2019-2020 academic year, as well as, appointed as the Student

Representative liaison for the Developmental Psychology Program Faculty for the 2020-2021

academic year. Thereafter, in fall 2020, she successfully defended her master's thesis entitled,

"Credit the Parents? The Impact of Racial Socialization on African American Students'

Stress-Related Coping and College Adjustment."

Credit the Parents? The Impact of Racial Socialization on African American Students'

Stress-Related Coping and College Adjustment

Introduction

Research indicates that African American students experience high levels of stress on

college campuses (Lipson et al., 2018) and stress is associated with a host of negative adjustment

outcomes (Liu et al., 2018). These extended levels of stress come from a multitude of stimuli,

such as changes in their living environment (i.e. college campuses and dorms), maintaining or

developing interpersonal relationships (i.e. new friendships, old friendships), physiological

changes (i.e. fitness, sexual activity), and financial and temporal management (i.e. part-time

work, budgeting finances, time management). Academic challenges also induce stress as students

transition into higher expectations associated with the rigor of college coursework. Among

African American college students, high stress levels have been linked to poor academic

outcomes (Fleming, 1981; Prillerman et al., 1989) as well as to compromised mental and

physical health (Pascoe et al., 2009). Efforts to understand successful coping and adjustment to

the college environment often focus on demographic factors, such as preparedness for college,

socioeconomic status, first generation to go to college; rarely are on-campus experiences

considered.

When experiential factors associated with adjustment to college are explored for African

American students, the focus is frequently on perceived discrimination -- racialized experiences,

including judgements, attitudes, and unfair treatment based on race -- and specifically among

students attending predominantly white institutions/universities (PWIs) (Helms et al., 2012;

Pachter et al., 2010). Racial discrimination is particularly harmful to college adjustment as it

negatively impacts students' ability to engage in effective regulation of negative emotions and effortful control, and the disruption of these processes is associated with stress and poor mental health outcomes (Utsey et al., 2000). However, racialized experiences are arguably less salient for students on campuses that are predominantly Black such as Historically Black Colleges and Universities (HBCUs). As such, studies of African American HBCU college campus experiences must consider a broader set of stressors.

Understanding African American students' adjustment to the college environment also requires a consideration of their means of coping with the aforementioned stressors that are unique to the college experience. Emotion regulation and associated strategies are important tools necessary for successfully overcoming college stress (Gross & John, 2003). Among African Americans, racial socialization messages received from parents may influence the regulatory strategies college students adopt. Racial socialization literature suggests some racial socialization messages meant to protect African American youth can be harmful to adjustment (Constantine & Blackmon, 2002), while other messages empower and support optimal levels of adjustment (Brown, 2010; Neblett et al., 2008). Very few studies examine relationships between racial socialization messages and emotion regulation, and findings have been largely mixed (Bynum et al., 2007; Causey et al., 2015).

In sum, a host of new stressors emerge in college and have a significant impact on college adjustment. However, little is known about common stressors, their causes, and their impact on college adjustment among students attending HBCUs. Moreover, few studies have explored coping mechanisms that support college adjustment in this student population. We also know little about the protective factors students bring with them into the HBCU college

environment that may mitigate African American students' experience of stress, and that may support effective coping and adjustment.

Statement of Study Purpose

The goal of the current project is to better understand how different college stressors, racial socialization messages from parents, and emotion regulation strategies impact college adjustment among African American college students attending predominantly Black institutions or HBCUs. African American college students are frequently studied in predominantly White academic settings; the current project aims to start filling this gap. Using Dunbar and colleagues' (2017) Integrative Conceptual Model of Adaptive Socialization as a framework, the study specifically explores whether racial socialization messages --mediated by emotion regulation strategies-- moderates associations between college stress experiences and college adjustment in an African American HBCU college sample.

Literature Review

College Adjustment

Adjusting to the demands of higher education and the campus environment requires new ways of thinking, new dispositions, and new behaviors (Labouvie-Vief, 2006). An important behavioral index strongly related to shifts specifically associated with the transition to college, is how students manage their sleep. Sleepiness during the day gets in the way of completing important college-life tasks, such as going to and staying awake in class (Alapin et al., 2000). Unsurprisingly, sleep habits are associated with multiple indicators of college students' academic success (Gaultney, 2010; Kelly et al., 2001; Lund et al., 2010; Trockel et al., 2000), as well as general health outcomes (Trockel et al., 2000; Smaldone et al., 2007), including risky behavior

(Vail-Smith et al., 2009). Poor sleep quality is strongly associated with risk for academic failure (Gaultney, 2010) and damaged social relationships (Carney et al., 2006).

Sleep problems are a common occurrence in college, and a large proportion of the college population experience problems associated with sleep (Dillon et al., 2015). College students are more likely than any other adult population to have inconsistent or "nightly fluctuation" in their sleep schedules (Dillon et al., 2015). Trouble getting to and staying asleep at night contributes to sleep deficiencies, and waking up too early disrupts important sleep processes like REM sleep (Buboltz, 2001). In a nationally representative sample from a National Health Interview Survey (2004-2017; $N = 1,202$ college students, 19% Black), students self-reported high levels of short-sleep (<7 hours/day), difficulty falling and/or staying asleep ($\geq$3 days/week), and perceived restless sleep (on most days). Results indicated Black students reported significantly higher short-sleep habits than White students, and were more likely than any other BIPOC group studied (e.g. Hispanic/Latin and Asian groups) to experience higher short sleep duration compared to White students, with all groups reporting high rates of insomnia symptoms (Jones et al., 2019).

Prevalence rates of sleep problems among college students indicate this is a particular area of concern for African American students. Jones and colleagues (2019) showed that Black students are more likely than their white counterparts to self-report short-sleep (<7 hours/night), and that short-sleep was related to obesity in Black students. Comparing U.S. and South Korean college students, Sa and colleagues (2020) found that being male, overweight, obese, and Black predicted short-sleep.

Stimulant overuse or abuse (legal and illegal) also emerge as students try to stay awake or concentrate (Friedrich & Schlarb, 2018; Lohsoonthorn et al., 2013; Jean-Louis et al., 1998). King and colleagues (2020) found an 3.1% increase in non-medical prescription stimulant use to stay awake in college students over an 11 month period (June 2016 and May 2017). Results indicated the following variables all significantly predicted stimulant use for wakefulness; alcohol, tobacco, and nicotine vapor use, "attitude toward non-medical use of prescription medication," poor sleep quality, and daytime sleepiness (King et al., 2020). These results mirrored those of Taylor and colleagues (2010) -- from over a decade earlier -- who found college students reported high levels of insufficient sleep, and frequently used medication and alcohol as sleep aids and stimulants as alertness aids. Results also indicated these supplements for poor sleep habits (e.g. stimulants for sleepiness and drugs for wakefulness) led to dangerous car motor habits (e.g. falling asleep at the wheel and driving sleepy; Taylor et al., 2010). In addition to the aforementioned considerations, sleep problems in college are associated with compromised analytical and methodological learning (Curcio et al., 2006; Smith, 2001; Gais & Born, 2004); poor neurocognitive functioning (Pilcher & Huffcut, 1996), psychomotor performance (Harrison & Horne, 2000), and hampered functioning in the prefrontal cortex (Curcio et al., 2006).

In sum, sleep habits are an important indicator of college adjustment, and prior work suggests African American college students are especially vulnerable to unhealthy sleep patterns. This predilection of African American students may be influenced by a host of unique factors and stressors associated with the transition to college life. For example, Billings (2014; Billings et al., 2013) note that HBCU students report high levels of daytime sleepiness, very short sleep durations, and poor sleep quality. Results indicated students' evening habits predicted unhealthy

sleep (Billings et al., 2014), and this can be implied self-imposed problematic behaviors (i.e. socializing or completing coursework late at night). In a study by McLaurin-Jones and colleagues (2020) perceived stress predicted insomnia and sleep quality in HBCU-attending Black female students.

College Stressors

Sleep habits are strongly associated with stress and worry (Lund et al., 2009; Wallace et al., 2016). However, the relationship may be bi-directional as sleep problems may be a symptom of stress but may also be caused by stress (Hamilton, et al., 2007; Garbarino et al., 2019). In the current study stress is conceptualized as precipitating sleep-related college adjustment problems. The pursuit of a college degree inevitably includes a certain amount of stress. Understanding the degree to which experiences unique to college induce stress is critical to inform efforts to support successful college adjustment. Campus stressors can be particularly harmful as stressed students invest less time in nocturnal recharging. Gadzella (1991) argues that relatively innocuous experiences or daily hassles in the college environment can cause negative emotions, even when the outcome is desirable. For college students, this can be seen across a multitude of dimensions across campus life, such as asking a date to a formal dance or transitioning from lower- to upper-classmen housing -- both of these have possibly desirable outcomes -- but nonetheless provoke stress.

Studies have shown that African American college students experience disproportionate levels of stress (Lipson et al., 2018). Students at HBCUs appear to experience a unique set of stressors, including intra- and interpersonal stress (Negga et al., 2007). Examples of intrapersonal stress include academic stressors, death or illness in the family, as well as familial financial

strain (Negga et al., 2007). Examples of interpersonal stressors include romantic partner conflict, peer conflict, and racism (Negga et al., 2007). Stress that derives from racialized experiences have a particularly negative effect on both the mental and physical health of African American students (Brondolo et al., 2009; Clark et al. 1999; Mays et al. 2007; Paradies, 2006; Pascoe et al., 2009; Williams & Williams-Morris, 2000). Long-term effects of stressors associated with racism include damage to self-efficacy, rumination, fatigue, generalized anger, and hypersensitivity (Sue & Sue, 2003).

Spencer's (1995) articulation of the stress experiences of African American students focuses on the confluence of hostile environments, societal perceptions, and prejudice minority students face as they develop their identities across the lifespan. She defines stress as the engagement of multiple contextual factors; including potential risks associated with being Black in America, stressors that are a byproduct of socioeconomic/historical oppression, and reactive coping methods. The sources of stress for African American college students can therefore vary depending on the context. For example, it has been demonstrated that the risk of poor outcomes as a result of racialized experiences on campus is heightened for Black students who were attending a predominantly white university (PWI; Greer & Brown, 2011). This is in part explained by a construct called *minority status stress*--the heightened racialized/prejudicial experience that comes with being a member of a racial/ethnic group that is in the minority on a college campus. In a study by Greer and Chwalisz (2007), African American college students reported that minority status stress diminished their academic performance, and this impact was not moderated by their coping strategies. Minority status stress impacts functioning in multiple ways (McClain et al., 2016), including increasing feelings of isolation which in turn disrupts

academic and social adjustment (Smedley et al., 1993) and further down the line is associated

with a decline in mental health (Kessler et al., 1999; Greer & Chwalisz, 2007; Prillerman et al.,

1989; Watkins et al., 2007).

Minority stress is, however, arguably less common at HBCUs. In one study, Negga and

colleagues (2007) compared sources of stress among African American students attending an

HBCU and a PWI. The top five sources of stress at the HBCU were *intrapersonal stress* (i.e.

family-related issues), *academic stress* (i.e. low grades, missing class, or time management), and

interpersonal stress (i.e. romantic partner conflict). African American students at HBCUs

reported low grades as a source of stress more frequently than PWI peers. Additionally,

academic stress appeared to be the primary concern for HBCU students, as the top three stressors

reported were all related to academics: low grades, time management, missed classes. Another

study, assessing African American HBCU students' stressors, found the top five college stressors

included: 1) "important decisions about your education," 2) "peers respect what you have to say",

3) "too many things to do at once"; 4) "a lot of responsibilities", and 5) "financial burdens,"

(Lindsey et al., 2011), suggesting that there is a wide range of college stressors perceived by

students at HBCUs.

In sum, there is evidence that students at HBCUs experience a unique set of stressors and

these stressors are associated with a variety of college adjustment problems. Whether stress

adversely impacts students is in part determined by how well students can activate coping

strategies (Lazarus & Folkman, 1984; Selye, 1976). In the current study, the relationship

between stress and college adjustment is conceptualized as moderated by coping strategies that

students have learned before entering college.

Theoretical Framework

The underlying theoretical framework for the current study is the Integrative Conceptual

Model of Adaptive Socialization (see Figure 1; Dunbar, Leerkes, Coard, Supple, & Calkins,

2017). This model proposes that African American youth experience prejudice in multiple

contexts, including interpersonal, institutional and cultural realms, and considers the

discrimination that accompanies these experiences to be highly impactful on youth's

socio-emotional and academic adaptation. However, the model suggests familial messages,

intended to prepare youth for societal expectations, buffer these negative effects through their

impact on coping strategies operationalized in terms of emotion regulation (Dunbar et al., 2007).

Furthermore, the model posits that parent socialization and emotion regulation serve as

moderators of the association between experiences of discrimination and adaptation. As such,

coping supports (messages from parents, emotion understanding and emotion regulation

strategies) can influence the degree to which experiences of discrimination adversely affect

African American youth.
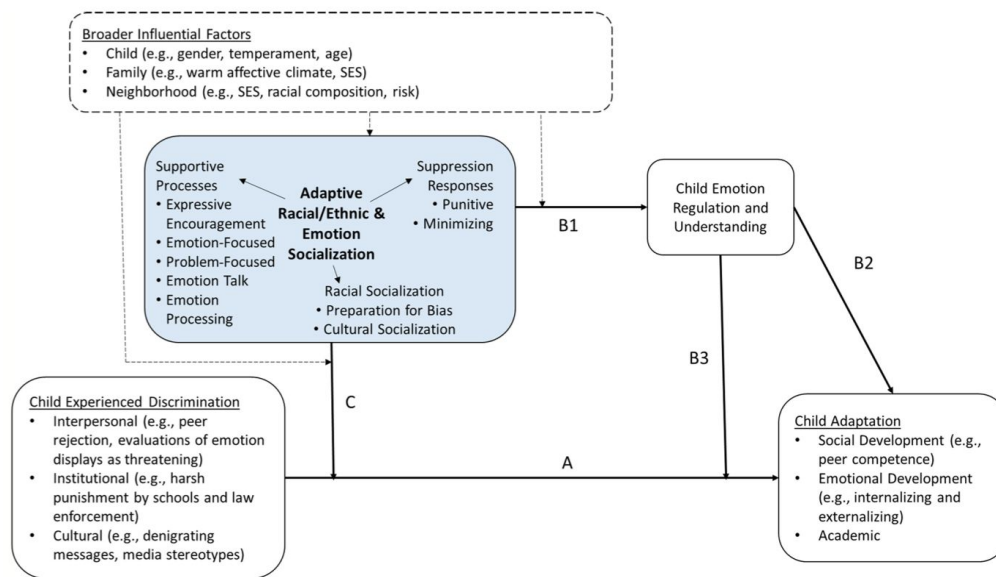
Figure 1. Integrative Conceptual Model of Adaptive Socialization (ICMAS; Dunbar et al., 2017).

In the current study each component of the Dunbar and colleagues (2017) model is examined but conceptualized in developmental terms relevant to college students. This study seeks to examine associations between college stress experiences (*pressures, frustrations, conflicts, changes, and self-imposed*), in lieu of discrimination experiences, adaptive racial/ethnic socialization (*racial socialization messages*), emotion regulation strategies (*cognitive appraisal and emotion suppression*), and college adjustment (*sleep-related behavior*). Literature addressing each of the components in this model is reviewed below as it manifests for African American college students.

Racial Socialization. African American parents often prepare children for the contentious environment that exists in the United States through racial/ethnic and emotion socialization (Dunbar et al., 2017). Dunbar and colleagues (2017) define emotion socialization as the practices parents engage to teach their children about the regulation and understanding of emotions. Within the antagonistic societal context in which African American families must navigate their children's socialization, researchers suggest Black parents may approach emotion socialization in a nuanced way, with the use of supportive and non-supportive messages to teach emotion regulation (Dunbar et al., 2015). For example, parenting messages may emphasize emotion suppression in racially-biased situations, where expressing negative emotions can be detrimental (Dunbar et al., 2015; Leerkes et al., 2015), such as when engaging with an academic authority figure or the police.

When raising their African American children, African American parents attend to three distinct realms of experience: Black mainstream, Black marginalized, and Afrocultural (Boykin

& Toms, 1985), and they socialize their children to navigate these contexts simultaneously rather than singularly (Dunbar et al., 2017). Socializing to the mainstream experience would entail messages that endorse and reinforce stereotypical roles and expectations of African American behavior and/or culture (i.e. entertainers, athletes, criminals, hyper-masculine, over-sexualized, less educated). To socialize one to the Black marginalized experience would entail messages that teach of generational and sociohistorical degradation that African Americans have faced and are still experiencing in America (i.e. slavery, civil rights, police brutality, poverty due to lack of equitable resources or opportunities). Lastly, to socialize one to the Black cultural experience would instill pride towards African heritage and culture (i.e. Black art in the home, visiting Black museums, or teaching Black history from the Afro-cultural perspective). Balancing these messages is key for healthy identity and social development, and any imbalance (e.g. too many messages about the minority experience by overemphasizing oppression), could lead to poor adjustment (Boykin & Toms, 1985).

Racial socialization specifically refers to messages African American parents share with their children to instill values and norms necessary for navigating societal expectations. These messages are usually centered around the role of race in many contexts (i.e. school, religion, the work-place etc.) of life in the United States. For example, an African American male child transitioning from an urban heavily African American populated environment to a predominantly European American suburban environment would require a shift in socialization messages, to ensure the lessons are pertinent and preparing for different contexts and possibilities. The transmission of these messages is said to support the acquisition of particular cognitive, emotional, and behavioral skills that serve protective and affirmative functions. In particular,

they support racial efficacy which allows young people to cognitively reappraise and adapt to

stressful racial/ethnic experiences (Bentley-Edwards & Stevenson, 2016). Researchers have

sorted racial socialization messages into five identifiable categories (Stevenson et al., 2002),

listed below with examples:

1. Coping with Antagonism; "Only God can protect against racism"

2. Pride Reinforcement; "never be ashamed of your color"

3. Appreciation of Legacy; "never forget Black enslavement"

4. Preparation for Bias; "Blacks have to work twice as hard as Whites"

5. Endorsement of Mainstream Ideals; "Black children feel better in White schools"

A plethora of studies examine the effects of particular messages on behavior (Brown, 2010;

Brown & Tylka, 2011; Bannon et al., 2009; Davis & Stevenson, 2006; Phinney & Chavira, 1995;

Constantine & Blackmon, 2002), but few have examined this association in college student

populations (Neblett et al., 2008). The proposed study posits, as do Dubar and colleagues (2017);

that racial socialization messages confer their impact on adaptation outcomes through emotion

regulation.

        Racial Socialization Messaging and Emotion Regulation. Traditionally emotion

socialization is studied separately from racial socialization, because the need to teach children

about emotion does not necessarily differ on the basis of cultural background. Emotion is a

universal construct that all people learn about, whether from their families or from personal

experiences with peers or other members of society, and all people can benefit from emotion

management (Gross & John, 2003). However, for African Americans, emotion socialization and

racial socialization may overlap since socialization goals are centered on preparing Black youth

to cope with prejudice or discriminatory experiences (Dunbar et al., 2017).

According to Gross and John (2003), emotion regulation is the management of emotions

by way of two regulatory strategies: cognitive reappraisal and suppression. The former is "a form

of cognitive change that involves construing a potentially emotion-eliciting situation in a way

that changes its emotional impact," (Lazarus & Alfert, 1964, as cited in Gross & John, 2003, p.

349)," or the interpreting of an emotive situation in a way that lessens emotional impact, and

reacting with this in mind. Cognitive reappraisal strategies therefore have two parts;

acknowledging and validating emotional responses to a stimulus, and proactively choosing an

appropriate reaction (Gross & John, 2003). Cognitive reappraisal is considered a healthier option

due to the process of reassessing one's feelings to determine if they are valid or not, then

engaging in the optionality of how to express oneself (Gross & John, 2003).

Suppression is "a form of response modulation that involves inhibiting ongoing

emotion-expressive behavior," (Gross, 1998, as cited in Gross & John, 2003, p. 349), or the

modification of emotions to inhibit response. The suppression strategy involves discounting

and/or neglecting one's emotional reaction to a stimulus, and is the less healthy of the two (Gross

& John, 2003). Utilizing emotion-suppression can lead to unhealthy reactions across multiple

health indicators, including physical, mental, and emotional domains, and is strongly associated

with detrimental outcomes in the long run such as hypertension and heart disease (Mauss &

Gross, 2004; Cottington et al., 1986, as cited in Mauss & Gross, 2004; Suls et al., 1995 as cited

in Mauss & Gross, 2004) Because suppression is focused on discontinuing an emotional

response altogether, it is less likely to serve as a healthy buffer for perceived stress when

appraising and allocating resources to handle an emotionally-taxing situation (Gross, 1998 as cited in Gross & John, 2003). At best, an emotionally suppressive coping strategy can stifle positive emotional responses (i.e. an A on an exam), and at worst, it can invalidate negative emotions (i.e. ignoring a racial slur from a roommate). Suppression strategies further incite animosity-related emotions due to associating "swallowing one's feelings," with a loss of control in a situation, and is further exploited by an expectation to not show said loss of control in less emotion-sensitive settings. Importantly, Richards and colleagues (2003) suggest emotion suppression requires energy to engage in self-monitoring to ensure one stifles feelings, thus expending the energy that could be used to reappraise a situation less efficiently.

In a five-part study, Gross and John (2003) examined the degree people used two regulatory strategies, and found cognitive reappraisal was related to more experiences of positive emotions and expression of positive emotion, as well as less experiences of negative emotion. Whereas, suppression was related to fewer experiences of positive emotions or positive emotion expression, and was caused by a lack of authenticity (Gross & John, 2003). The ability to regulate one's emotions can be applied to every facet of one's life, but all strategies are not equal. Arguably, the most important function of emotion regulation is to promote the development of better social, interpersonal, and intrapersonal skills (Stifter & Augustine, 2019), so that children can develop a tolerance to emotional friction with a greater purpose in mind. For example, a child who had a rough day on the playground with a peer is still able to complete an afternoon reading assignment, because them experiencing negative emotions did not completely disable their ability to think critically and reach an academic goal.

A notable body of research exists suggesting that within the African American community there is an overwhelming tendency to reinforce emotion suppression as a protective coping strategy (Labella, 2018; Dunbar et al., 2015; English & John, 2013). The seemingly obvious choice to teach African American children cognitive reappraisal over suppression coping skills is blurred by real and perceived environmental factors. While all American environments are not racially polarized or tense, very public racial incidents both past (e.g. American Civil Rights movement, Rodney King beating), and present (e.g. Trayvon Martin shooting, increased racially-specific police brutality) have created a heightened sense of awareness of no "room for error" for African Americans and a critical need to not be perceived as threatening. These incidents, in conjunction with the historical context of Blacks in America, have created a generational "suppression epidemic" within the community as a means of protection from adversity, as opposed to a general dislike of experiencing and expressing emotions. For example, Labella (2018) found African American parents endorsed the use of emotionally suppressive messages, as needed for preparatory purposes for Black children.

Similarly, Dunbar and colleagues (2015) found preparatory support for the use of non-supportive emotion talk for African American students, as well. These results further bolster the evidence of African American familial practices utilizing harmful strategies because this harm mirrors environmental expectations (e.g. US prejudicial climate) for Black youth. The key point here is that socialization messaging is adaptive. For example, African American males report more frequent socialization messages preparing them for racial bias than their female counterparts (Dunbar et al., 2015). These findings suggest the context in which African American children are being socialized, as well as societal assumptions about gender differences,

play large roles in parents' efforts to socialize their children into the reality of life in a biased American society.

It is important to note that other cultural messages may also reinforce emotion suppression. For example, messaging to "respect your elders," and, "do not talk back," is present in more traditional Black homes, and children learn rules which implicitly support emotion suppression through interactions with family members. These same rules dictate societal expectations of African American public behavior, allowing no true environment for African American youth to express themselves without respectability politics -- within group members' policing each other's behaviors for the impression management of the whole group (Lee & Hicken, 2016). English and John (2013) found cultural authenticity was the only mediator for the link between emotional suppression and life-satisfaction in minority college students, suggesting the use suppressive messaging requires a boost of cultural pride to prevent harmful effects on African American students.

Theoretically, racial socialization messages promoting cultural pride should lead to reappraisal coping (Brown, 2010; Neblett et al., 2008). Brown and Tylka (2011) found experiences of overall racial socialization messages, and especially those endorsing an appreciation of cultural legacy, significantly moderated the relationship between racial discrimination and reported resilience. Additionally, those who reported more experience with racial socialization reported higher resilience, and greater racial socialization disrupted the link between discrimination and resilience altogether (Brown & Tylka, 2011). Messages instilling cultural pride have been linked to lower anxiety far more than familial support, depression, and parental involvement (Bannon et al., 2009). In contrast, racial socialization messages intended to

prepare youth for bias has been associated with higher depression and overall helplessness

(Davis & Stevenson, 2006), and these findings were further supported in African American

young adult samples (Liu & Lau, 2013, as cited in Reynolds et al., 2016; Banerjee, Rowley, &

Johnson, 2015, as cited in Reynolds et al., 2016), as well as a youth caregiver sample (Caughy et

al., 2002). However, Phinney and Chavira (1995) found an opposite result for preparatory racial

socialization messages, reporting higher levels of preparation for bias messages were associated

with higher levels of proactive coping and higher self-esteem. These findings were replicated by

Constantine and Blackmon (2002), but with cultural pride racial socialization messages, and

further supported by Davis and Stevenson (2006), particularly in males.

Recent work shows that cultural pride messages lead to healthier reappraisal coping

strategies (Bouldin et al., 2019a), which further negate stress, while messages promoting

mainstream ideals and preparation for bias led to increased use of suppressive regulatory

strategies (Bouldin et al., 2019a), which harm stress management. Furthermore, African

American students who reported higher cultural pride messaging also reported less experiences

of physiological stress, whereas messaging reinforcing mainstream ideals was associated with

higher reports of physiological stress (Bouldin et al., 2019b). However, Thompson and

colleagues (2010) found the relationship between racial socialization and acculturative stress to

be unsupportive of cultural pride racial socialization messages, with higher reports of racialized

messages promoting cultural pride and authenticity leading to more acculturative stress in

African American college students.

In sum, in accordance with the Dunbar and colleagues (2017) theoretical model, coping

with stressful experiences entails emotion regulation strategies that are directly informed by

parental socialization, and together these variables influence adaptation or--in the current study--college adjustment.

Current Study

The goal of the current project is to better understand associations between different types of college stressors and college adjustment in African American students at HBCUs, and the degree to which their racial socialization experiences and emotion regulation strategies impact this association.
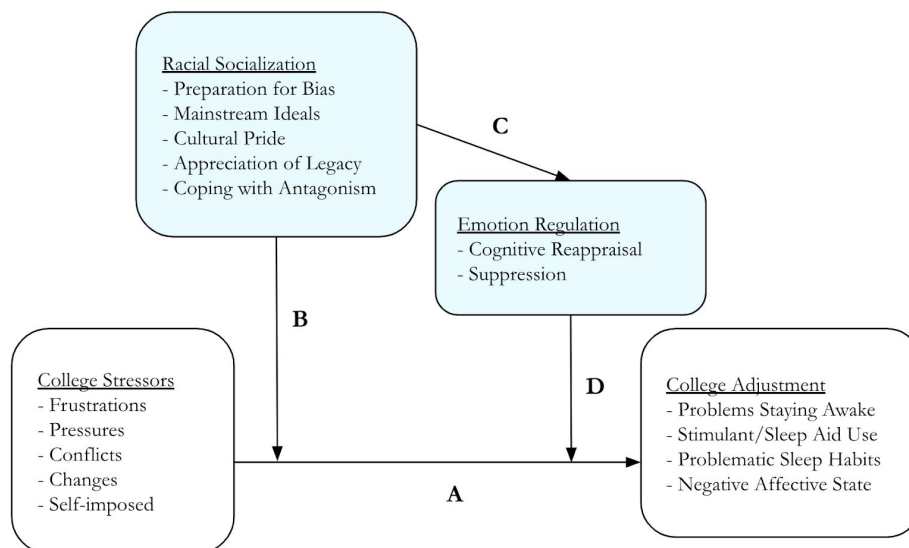
Figure 2. Adapted ICMAS (Dubar et al., 2017) Mediated Moderation Model

Research Questions

1. Do different college stressors predict different sleep-related college adjustment outcomes?

2. Do different racial socialization messages predict different emotion regulation strategies?

3. Is the association between college stressors and sleep-related college adjustment moderated by racial socialization?

4. Do emotion regulation strategies moderate associations between college stressors and sleep-related college adjustment?

5. Is an adapted version of the Dunbar et al mediated moderation model a good fit; whereby the impact of college stressors on college adjustment for African American college students at HBCUs is moderated by racial socialization operating through emotion regulation?

Methods

Overview

This thesis constitutes a secondary data analysis. Data analyzed for this project was derived from a larger study focused on understanding the development and impact of a variety of factors on emotion expression and related emotion processes within an African American college sample. The original study included students from a PWI and from an HBCU. The current study only explores data from the HBCU sample.

Participants

The sample included one hundred-eighty seven African American (or self-identified Black) college students (M_{age} = 21.98 years, 71.1% female); 23 freshmen (12.3%), 29 sophomores (15.5%), 35 juniors (18.7%), 94 seniors (50.3%), and 5 graduate students (2.7%) attending an Historically Black College/University in the southeastern region of the United States. Additional sample details are displayed in Appendix A.

Measures

Demographic Information (Control Variables). Participants provided background information through an in-depth 10-item survey. Information provided included participants' date of birth, gender, ethnic background, and participant and caregiver education levels.

Emotion Regulation. The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003; see Appendix B for list of questions) is a 10-item measure with 2 subscales assessing the degree to which individuals regulate their emotions through *emotion suppression* ("when I am feeling positive emotions, I am careful not to express them"), or *cognitive reappraisal* ("when I want to feel less negative emotion, I change the way I am thinking about the situation"). Items were answered using a 7-point Likert-type scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), where higher scores indicate more agreement with the statement. In a four-sample study totaling 1,483 undergraduate students, Gross and John (2003) found overall assessment strength was strong ($\alpha = .69$), with alpha reliability averaged at .79 and .73 for cognitive reappraisal and suppression subscales, respectively.

Racial Socialization. The Teenagers Experience of Racial Socialization Scale (TERS; Stevenson et al., 2002; see Appendix B for list of questions) is a 40-item questionnaire assessing the proactive and/or protective coping strategies youth reported having been taught by their parents and the frequency of usage. Items were answered using a 3-point Likert-type frequency scale, ranging from 1 (*never*) to 3 (*lots of times*), where higher scores expressed more experience with the specific message type. There are four messaging subscales within the measure: (1) *coping with antagonism* ("only God can protect against racism"), (2) *pride reinforcement* ("never be ashamed of your color"), appreciation of legacy ("never forget Black enslavement"), (3) *alertness to discrimination or preparation for bias* ("Blacks have to work twice as hard as

Whites"), and (4) *endorsement of mainstream ideals* ("Black children feel better in White

schools"). In a sample of 260 African-American teenagers, Stevenson and colleagues (2002)

found the overall strength of the scale was strong ($\alpha = .91$), and reported strong alphas for each

of the five subscales, further explained in the data analysis plan.

      College Stressors. The Student-Life Stress Inventory (SSI; Gadzella, 1991; see

Appendix B for list of questions) is a 51-item measure assessing the degree of stress college

students experience, with questions focused on various causes of stress and responses to stress,

broken down into nine categories. Five categories are types of stressors comprising the college

stress variable; *frustrations* ("as a student I feel I was denied opportunities in spite of my

qualifications"), *conflicts* ("I have experienced conflicts which were produced when a goal had

both positive and negative alternatives"), *pressures* ("I experienced pressures due to

interpersonal relationships [family and/or friends, expectations, work responsibilities]"), *changes*

("I have experienced too many changes occurring at the same time"), and *self-imposed* ("as a

person I have a tendency to procrastinate [put off things that have to be done]"). The remaining

four categories are types of reactions to stress, however, the project will focus on the stressor

subscales. The questions are answered using a 5-point Likert-type frequency scale, ranging from

1 (*never*) to 5 (*most of the time*), with higher reports indicating more frequent experiences. In a

sample of 87 subjects, Gadzella and Baloglu (2001) reported strong alphas for the overall

measure ($\alpha = .72$), and reported strong alphas for each of the five subscales, further explained in

the data analysis plan.

      Sleep-Related College Adjustment. The Sleep/Wake Problem Behaviors Scale was used

to assess sleep-related college adjustment. It is a 37-item sub-scale derived from Shahid and

colleagues' (2012) School Sleep Habits Survey (see Appendix B for list of questions). The scale assesses young adults' sleep tendencies through various dimensions of behavior, including sleep schedule, school performance, daytime sleepiness, and poor habitual behaviors. The scale utilizes four question stems, grouped as subscales, with five to thirteen "leaves" asking more specific questions. The first subscale, "Problems Staying Awake," is as follows, "*During the past two weeks, have you struggled to stay awake (fought sleep) or fallen asleep in the following situations,*" with an example leaf of, "in a face-to-face conversation with another person?" The second subscale, "Stimulant/Sleep Aid Use," pertains to legal and illegal stimulant/sleep aid use and asks, *"During the last two weeks, how often did you…,"* with an example leaf of, "drink coffee or tea with caffeine?" The third subscale, "Sleep Problems," alludes to sleep quality and behaviors, with the stem, "*In the last two weeks, how often have you…,*" and an example leaf of, "felt tired, dragged out, or sleepy during the day?" The last subscale, "Negative Affective State," assesses negative emotions associated with sleep quality or sleep deprivation, and reads, "*During the last two weeks, how often were you bothered or troubled by the following,*" with an example leaf of, "feeling unhappy, sad, or depressed." The questions are answered using a 3-point Likert-type frequency scale, ranging from 1 (*not at all*) to 3 (*much*), with higher reports indicating more frequent experiences. In a sample of 3,000 young adults, Shahid and colleagues' (2012) reported a strong alpha for the subscale ($\alpha = .75$).

Procedure

Recruitment for the study was done through the institution's SONA research system. Through SONA, students enrolled in the study and completed the surveys through the RedCap electronic data collection system. Participants were assigned a non-identifiable participant

number, and presented an electronic consent form to read and indicate consent by clicking the "yes" box, confirming they understood what participation entailed, and agreed to participate before they were routed to start the survey. The only identifiable personal information obtained were the participants' age, gender, and cultural background/ethnicity, leaving adequate anonymity. Due to the sensitive retrospective nature of socialization and emotion research, students were informed that if they felt uncomfortable answering particular questions, they could opt out. The self-report measures were completed in approximately 45 minutes, and a debrief was issued upon leaving. Compensation included research participatory course credit.

Results

Prior to running analyses, the data was cleaned to correct issues with distribution, outliers, and missingness. Frequency analyses and a visual inspection of scatterplots was conducted to assess normality, skewness, kurtosis, and linearity. Preliminary analyses indicated skews in the data for the *mainstream ideals* (racial socialization) and *problems staying awake* (sleep-related college adjustment) subscales. Additionally, the *problems staying awake* and *sleep problems* subscales, exceeded the acceptable kurtosis threshold ($p < .05$; George & Mallery, 2010). With the goal of maintaining the integrity of the data, these issues of normality were handled through square root transformation (Little et al., 2014), and outliers distorting distributions were corrected through winsorization (Tabachnick & Fidell, 2007). After confirming the data was missing at random, multiple imputation was used as a better and more complex method, in lieu of pairwise deletion (Little et al., 2014).

Descriptive Analyses

Means and standard deviations were calculated for parental racial socialization messages, emotion regulation strategies, and frequency of sleep-related adjustment problems. Descriptive statistics for all variables are presented in Appendix C. Participants reported high levels of overall sleep-related adjustment issues (M = 89.76, SD = 8.34), with *problematic sleep habits* being reported as the most frequent issue (M = 51.07, SD = 7.42). Results of T-test analyses showed no gender differences, except for sleep issues due to *negative affective state* for which females (M = 11.78, SD = 2.93) reported higher negative affective state than males (M = 10.46, SD = 2.83), t(185) = -2.81, p = .006. Participants also reported high levels of overall college stress (M = 73.51, SD = 16.37). T-test analyses indicate that female HBCU students *(M = 14.61, SD = 3.69)* reported significantly more *pressure-related stressors* than males *(M = 12.35, SD = 3.96)*, t(185) = -3.72, p < .001. Females *(M = 9.66, SD = 3.08)* also reported more *change-related stressors* than male students (M = 8.35, SD = 2.95), (t(185) = -2.66, p = .008).

The most frequently reported racial socialization message was *coping with antagonism* (M = 27.68, SD = 5.83). Females reported more messages *(M = 11.82, SD = 2.70)* fostering an *appreciation of the Black legacy* than males (M = 10.96, SD = 2.60), t(185) = -1.99, , p = .048, as well as more *preparation for bias messages (M = 13.53, SD = 3.44)* than males *(M = 12.11, SD = 3.34)*, (t(185) = -2.58, , p = .011). In contrast, males reported significantly more *(M = 7.79, SD = 2.57)* messages *reinforcing mainstream ideals* than females (M = 6.85, SD = 1.73), t(df) = 2.45, p = .017.

No significant gender differences were noted for the use of *suppression* and *cognitive reappraisal* emotion regulation strategies. However, to adaptively cope males reported more use of *suppression* strategies (M = 17.80, SD = 4.58) than female students (M = 16.84, SD = 5.50),

while female students reported more use of *cognitive reappraisal* strategies (*M* = 31.52, *SD* = 7.85) than male students (*M* = 31.27, *SD* = 6.41) .

      Correlations. Correlation analyses showed variables to be related in expected ways (see Appendix D for details). Noteworthy exceptions: *Age* was significantly negatively correlated with *cultural pride reinforcement* (*r* = -.17), *appreciation of legacy* (*r* = -.20), and *preparation for bias* (*r* = -.18), indicating as participants aged they received fewer of these types of parent socialization messages. More *cultural pride* socialization messages was significantly positively related to more *problematic sleep behaviors* (*r* = .15), suggesting hearing more Black pride messages increased sleep problems. In contrast, *mainstream ideal* racial socialization messages were significantly negatively correlated to *problematic sleep behaviors* (*r* = -.32), such that those being socialized toward integrating with the white mainstream expectations reported fewer sleep problems. *Students' education level* was significantly correlated with *stimulant/sleep aid use* (*r* = -.20), suggesting undergraduates who had been in college longer reported less use of stimulants or aids to combat sleep problems. *Maternal education level* was significantly negatively correlated with *cognitive reappraisal* (*r* = -.18), suggesting participants with more educated mothers used reappraisal less as an emotional regulation strategy than did students with less educated mothers. *Frustration-* (*r* = -.25) and *conflict-related* college stress (*r* = -.20) were both significantly negatively correlated with *problematic sleep habits* (e.g. falling asleep in a morning class), indicating less frustrated or conflicted students experienced more sleep problems.

      Correlations were also calculated separately for each gender (see Appendix E). Noteworthy differences for female HBCU students were as follows: *pressure-* (*r* = .26) and *conflict-related* college stressors (*r* = .19) were both significantly and positively related to *coping*

with antagonism racial socialization messages; pressure- ($r = .19$), and self-imposed college

stressors ($r = .20$) were related to cultural pride reinforcement racial socialization messages;

pressure- ($r = .23$) and self-imposed college stressors ($r = .19$) were related to appreciation of

legacy racial socialization messages; pressure- ($r = .38$), change- ($r = .18$), and self-imposed

college stressors ($r = .26$) were all related to preparation for bias racial socialization messages;

cognitive reappraisal emotion regulation was related to coping with antagonism ($r = .29$),

cultural pride reinforcement ($r = .27$), and appreciation of legacy ($r = .28$) racial socialization

messages; suppression emotion regulation was related to all five college stressor types,

frustration ($r = .31$), conflict ($r = .36$), pressure ($r = .32$), change ($r = .28$), and self-imposed ($r =$

$.24$); sleep-related adjustment issues due to problematic sleep habits was related to frustration- (r

$= -.23$) and conflict-related ($r = -.19$) college stressors, as well as cultural pride reinforcement

racial socialization messages ($r = .22$). Further, sleep-related adjustment issues due to negative

affective state was also related to all five college stressor types, frustration ($r = .58$), conflict ($r =$

$.38$), pressure ($r = .42$), change ($r = .50$), and self-imposed ($r = .39$).

Significant correlations for male HBCU students included: maternal education level and

problems staying awake ($r = -.29$); frustration- stress was related to coping with antagonism ($r =$

$.27$), appreciation of legacy ($r = .34$), and mainstream ideals ($r = .32$) racial socialization

messages, as well as sleep-related adjustment issues due to problems staying awake ($r = .48$) and

problematic sleep habits ($r = -.31$); conflict-related college stressors were related to mainstream

ideals racial socialization messages ($r = .31$), as well as problems staying awake ($r = .38$) and

stimulant/sleep aid use ($r = .28$); pressure-related college stressors were related to preparation

for bias racial socialization messages ($r = .31$), as well as sleep-related adjustment issues due to

problems staying awake (*r* = .40) and *negative affective state* (*r* = .27); *changes-related* college

stressors were related to *mainstream ideals* racial socialization messages (*r* = .34) and

sleep-related adjustment issues due to *problems staying awake* (*r* =.41); *self-imposed related*

college stressors were related to *coping with antagonism* (*r* = .38)*, appreciation of legacy* (*r* =

.44)*,* and *preparation for bias* (*r* = .29) racial socialization messages, as well as *cognitive*

reappraisal emotion regulation (*r* = .29), and sleep-related adjustment issues due to *problems*

staying awake (*r* = .46) and *stimulant/sleep aid use* (*r* = .29); *appreciation of legacy* racial

socialization messages was related to *cognitive reappraisal* emotion regulation (*r* = .29); lastly,

mainstream ideals racial socialization messages was related to *cognitive reappraisal* emotion

regulation (*r* = -.32), as well as sleep-related adjustment issues due to *problems staying awake* (*r*

= .56)*, stimulant/sleep aid use* (*r* = .28)*,* and *problematic sleep habits* (*r* = -.56).

Main Analyses

   The main analyses sought to explore the different pathways represented in the adapted

ICMAS model, as well as test the full mediated moderation model represented below.
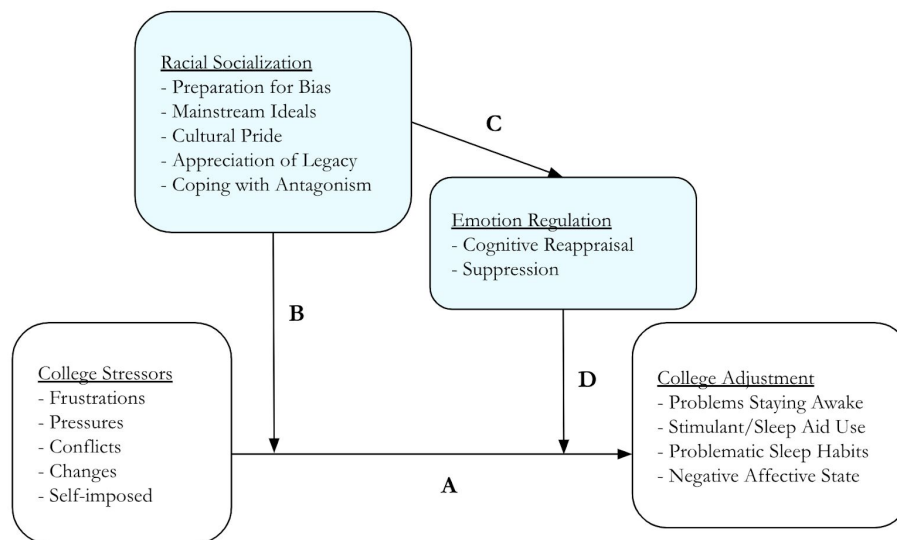
Figure 2. Adapted ICMAS (Dubar et al., 2017) Mediated Moderation Model

Analyses were conducted to answer the five primary research questions, and results are presented by each question below.

RQ 1: Do different college stressors predict different sleep-related college adjustment outcomes (Pathway A)? Hierarchical multiple regression analyses were used to investigate which college stressors (*frustration, conflict, pressure, change,* and *self-imposed* college) predict different sleep-related college adjustment outcomes (*problems staying awake, stimulant/sleep aid use, problematic sleep habits,* and *negative affective state*). Model 1 of all HMRs included the following five covariates: 1) *gender,* 2) *age,* and 3) *participant,* 4) *maternal education level,* and 5) *paternal education level.* Model 2 of each HMR assessing sleep-related college adjustment included the following five college stress variables: 1) *frustration,* 2) *conflict,* 3) *pressure,* 4) *change,* 5) and *self-imposed.*

The overall models predicting *problems staying awake* and *stimulant/sleep aid use* were not significant (see Appendices F and G, respectively). However, the models predicting *problematic sleep habits* and *negative affect state* were significant and are described in more detail below. Results for *problematic sleep habits* indicated the overall model was significant ($F(10, 176) = 2.50, p = .008, Adj. R^2 = .07$), and the covariates and stressors accounted for roughly 7.4% of the variance in *problematic sleep habits.* Model 1 with only the covariates was not significant, but the addition of the five stressors in model 2 rendered the model significant, $\Delta R^2 = .10, \Delta F(12, 169) = 3.94, p = .008$, with stressors accounting for 10% of the variance in *problematic sleep habits.* Univariate analyses indicate that *frustration-related* college stressors carried the model ($\beta = -.43, t(176) = -2.73, p = .007$). See Appendix H for further details.

For *negative affective state*, results indicated the overall model was significant (F(10,

176) = 8.31, $p < .001$, *Adj. R^2* = .28), and the covariates and stressors accounted for roughly 28%

of the variance in *negative affective state.* Model 1 was significant (F(5, 181) = 3.71, $p = .003$,

Adj. R^2 = .07). After entering the aforementioned five stressors, the model was significantly

improved $\Delta R^2 = .23$, ΔF(12, 169) = 11.80, $p < .001$, with stressors accounting for an additional

23% of the variance in *negative affective state.* Univariate analyses indicate that *gender* ($\beta = .93$,

t(176) = 2.16, $p = .032$), *maternal* education level ($\beta = -.25$, t(176) = -2.10, $p = .037$), and

frustration-related college stressors ($\beta = .19$, t(176) = 3.37, $p = .001$) carried the model. See

Appendix I for further details.

RQ 2: Do different racial socialization messages predict different emotion regulation

strategies (Pathway C)? A hierarchical multiple regression (HMR) was conducted to examine if

any of the five socialization message types (e.g. *coping with antagonism, cultural pride*

reinforcement, appreciation of legacy, preparation for bias, and *endorsement of mainstream*

ideals) would predict emotion regulatory strategies (e.g. *emotion suppression* and *cognitive*

reappraisal). Model 1 of all HMRs included the following five covariates: 1) *gender,* 2) *age,* and

3) *participant,* 4) *maternal,* and 5) *paternal education levels*. Model 2 of each HMR assessing

emotion regulation strategy usage included the following five racial socialization message types:

1) *coping with antagonism,* 2) *cultural pride reinforcement,* 3) *appreciation of legacy,* 4)

preparation for bias, 5) *endorsement of mainstream ideals*.

The multiple regression analysis with the five racial socialization message types entered

as predictors and *suppression* set as the dependent variable was not statistically significant (see

Appendix J for further details). For *cognitive reappraisal*, the overall model was significant

($F(10, 176) = 4.02$, $p < .001$, *Adj. R^2* = .14) and the combined variables accounted for 14% of the variance in cognitive reappraisal. Model 1, ($F(5, 181) = 1.87$, $p = .101$, *Adj. R^2* = 0.02) was not significant, so the covariates alone did not predict cognitive reappraisal. However, after the five racial socialization message types were added, the model significantly improved $\Delta R^2 = .14$, $\Delta F(5, 176) = 5.92$, $p < .001$, accounting for a roughly 14% increase in the variance in *cognitive reappraisal* explained. Univariate analyses indicate that *maternal education* (β = -0.21, $t(176)$ = -2.92, $p = .004$) and *mainstream ideals* messages (β = -.75, $t(176)$ = -2.73, $p = .007$) were the variables carrying the model. See Appendix K for further details.

RQ 3: Is the association between college stressors and sleep-related college adjustment moderated by racial socialization? (Pathway B). Moderation analyses were based on findings from the correlation analyses and were only performed for variables that were significantly related. Using Model one of the SPSS PROCESS Macro (Hayes, 2018), with 5,000 bootstrapped samples, all five covariates (*gender, age, participant education level, maternal education level,* and *paternal education level)* were entered along with a college stressor *(frustration, changes,* or *self-imposed*) as the independent variable, a racial socialization message type as the moderating variable (*mainstream ideals, cultural pride,* or *appreciation of legacy*), and a sleep-related college adjustment (*problematic sleep habits, negative affective state,* or *problems staying awake*) as the dependent variable. Additionally, prior to analyses all independent and moderator variables were centered to avoid issues of multicollinearity (Aiken & West, 1991).

First, the moderating effects of *mainstream ideals* on the relationship between *frustration stressors* and *problematic sleep habits* were evaluated. Results indicated that *Frustration*

stressors were a significant predictor of *problematic sleep habits*, (β = -0.25, t(178) = -2.70, p = 0.008). *Mainstream ideals* were a significant predictor of *problematic sleep habits,* (β = -5.34, t(178) = -3.56, p = .001). However, the interaction between *frustration-related* college stressors and *mainstream ideals* was not significant, (β = -.15, t(178) = -.63, p = .53), indicating no moderation effect. Therefore, the relation between *frustration-related* college stressors and *problematic sleep habits* was not moderated by *mainstream ideals* racial socialization messages. See Appendix L for further details.

The influence of *cultural pride* racial socialization messages on the relationship between *frustration stressors* and *problematic sleep habits* was examined. *Frustration-related* college stressors were a significant predictor of *problematic sleep habits*, (β = -0.32, t(178) = -3.39, p = 0.001). However, *cultural pride* racial socialization messages were not significantly associated with *problematic sleep habits,* (β = 0.23, t(178) = 1.79, p = .076), nor was the interaction between *frustration-related* college stressors and *cultural pride* (β = -0.03, t(178) = -1.47, p = 0.143), indicating no moderation effect. Therefore, the association between *frustration-related* college stressors and *problematic sleep habits* was not moderated by *cultural pride* racial socialization messages. See Appendix L for further details.

Lastly, the moderating effects of *mainstream ideals* racial socialization messages on the relationship between *self-imposed* college stressors and *problems staying awake* were examined. *Self-imposed* college stressors were a significant predictor of *problems staying awake*, (β = 0.03, t(178) = 2.83, p = 0.005), as were *mainstream ideals* racial socialization messages*,* (β = 0.46, t(178) = 3.52, p = 0.001). However, the interaction between *self-imposed* college stressors and *mainstream ideals* was not significant, (β = 0.03, t(178) = 1.44, p = 0.151), indicating no

moderation effect. Therefore, the relation between *self-imposed* college stressors and *problems staying awake* was not moderated by *mainstream ideals* racial socialization messages. See Appendix M for further details.

RQ 4: Do emotion regulation strategies moderate associations between college stressors and sleep-related college adjustment? (Pathway D). This moderation analysis was informed by significant correlation analyses between emotion regulation strategies (suppression and cognitive appraisal), stressors and sleep-related college adjustment outcomes. For suppression, *frustration-related* college stressors ($r = .482$, $p < .01$) and use of *suppression* as an emotion regulation ($r = .312$, $p < .01$) were both positively related to *negative affective state*. Using Model one of the SPSS PROCESS Macro (Hayes, 2018), with 5,000 bootstrapped samples, all five covariates (*gender, age,* and *participant education level, maternal education level,* and *paternal education level)* were entered, along with *frustration-related* college stressors as the independent variable, *suppression* as the moderating variable, and *negative affective state* as the dependent variable. Again, prior to analyses all independent and moderator variables were centered prior to avoid issues of multicollinearity (Aiken & West, 1991). *Frustration-related* college stressors were a significant predictor of *negative affective state*, ($\beta = 0.21$, $t(178) = 6.44$, $p = 0.001$). *Suppression* was also a significant predictor of *negative affective state,* ($\beta = 0.13$, $t(178) = 3.62$, $p = 0.0004$). However, the interaction between *frustration-related* college stressors and *suppression* was not significant, ($\beta = 0.001$, $t(178) = 0.17$, $p = 0.863$), indicating no moderation effect. Therefore, the relation between *frustration-related* college stressors and *negative affective state* was not moderated by *suppression*. See Appendix N for further details.

The moderating impact of *cognitive reappraisal* on the relationship between stressors and sleep-related adjustment outcomes, was not tested because cognitive reappraisal was not correlated with any of the stressors or sleep-related adjustment outcomes.

RQ 5: Is an adapted version of the ICMAS (Dunbar et a., 2017) mediated moderation model a good fit; whereby the impact of college stressors on college adjustment for African American college students at HBCUs is moderated by racial socialization operating through emotion regulation? (Full model). This question was examined through a mediated moderation analysis (Morgan-Lopez & MacKinnon, 2006; Van Kollenburg, 2011). The effect of an initial moderator (racial socialization message) operating through a mediating moderator (emotion regulation strategy) on college adjustment (sleep-related problems) was examined. Given the exploratory nature of this project, steps towards running the full model entailed a series of analyses to examine each of the model pathways. Results of these preliminary double moderation analyses were not significant (results of analyses for RQ 3 and RQ4), so the test of the overall moderated mediation model was not expected to be a good fit. Nevertheless, model two of the SPSS PROCESS Macro (Hayes, 2018) was used to conduct a double moderation; the PROCESS version of Baron and Kenny's original initial steps for mediated moderation (1986). Once double moderation is established, the residuals between the initial moderator variable (racial socialization message) and the mediating moderator (emotion regulation strategy) (path C; Figure 2.) is calculated to examine how much variance between the independent variable (college stressor) and the dependent variable (sleep-related college adjustment) is attributable to the interaction of the two moderating variables. As expected below,

model fit indices indicated this model was not a good fit for the data, as the overall double

moderation model was not significant (see Figure 3 below). See Appendix O for further details.
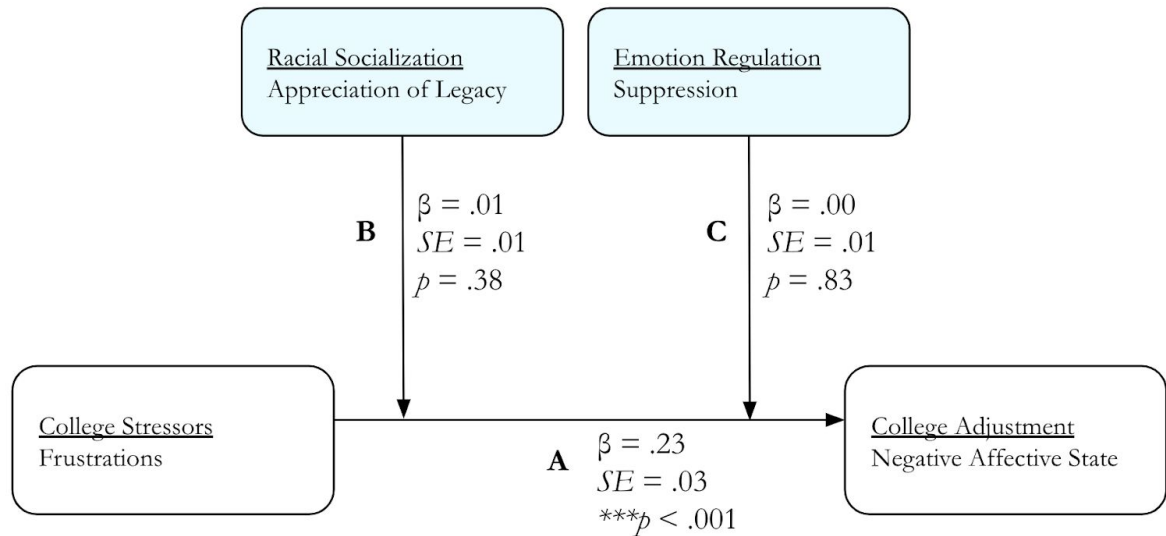
Figure 3. Double Moderation Model for appreciation of the Black legacy and emotion

suppression moderating frustration related stress and sleep problems due to negative affective

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

Discussion

The overarching goal of this study was to assess racial socialization's potential as a

mechanism for "adaptive coping" in Black college students. More specifically, this study sought

to explore how different college stressors, parental racial socialization messages, and emotion

regulation strategies interact to impact college adjustment among African American college

students attending predominantly Black institutions. The current study was exploratory in nature

and hypotheses were developed based on the existing research literature on these topic areas. The

central question was if statistically operationalizing an adapted version of Dunbar and

colleagues' (2017) Integrative Conceptual Model of Adaptive Socialization, as a mediated moderation framework, was a good fit; whereby the impact of college stressors on college adjustment for African American college students at HBCUs would be moderated by racial socialization operating through emotion regulation, and this was not supported. The primary reason for this was that neither racial socialization messages nor emotion regulation strategies moderated the relationship between college stressors and sleep-related college adjustment.

Developmental considerations provide some insight as to why the ICMAS model was not a good fit for this set of variables as operationalized for African American college students attending an HBCU. The model was designed to explain adjustment outcomes for children, in the context of coping with race-related stressors (e.g. racial discrimination) which are more likely to be impacted by racial socialization messages than general college-related stressors. The poor fit of the ICMAS for studying racial socialization in young adults also calls into question the developmental appropriateness of extrapolating expected effects of racial socialization (during childhood) to apply to current campus experiences. As operationalized in the current study, racial socialization is a retrospective report of messages received from parents or family and does not assess the degree to which the individual has manifested or incorporated the messages into their beliefs or actions. Therefore, examining racial socialization during emerging adulthood may reflect messages received in childhood, rather than advice or insight utilized during college. Further, given the stage of development of African American college students, racial-ethnic identity may be a more appropriate construct to assess as a possible moderator of the relationship between college stress experiences and adjustment outcomes as it is a more proximal influence than parental socialization messages. Identity development is a life-long process, but adolescence

and emerging adulthood are the most critical developmental periods, as individuals in this stage engage in a process to make meaning of cultural socialization experiences and negotiate ways of integrating these into their self conception (Erikson, 1968). Arnett (2006) argues that the roles and responsibilities of the "emerging adulthood" period is novel to current generations and deserves further attention; as this phase of life between adolescence and adulthood involves further exploration of one's identity.

Links between identity and emotion management or coping are well established (Sellers et al., 2011; Jones et al., 2014; Constantine et al., 2002), however research specifically focused on how racial-ethnic identity directly informs emotion management strategies (not vice versa) is limited. Sellers and colleagues (2011) suggest various aspects racial-ethnic identity -- racial centrality, and private/public regard -- could be directly influencing emotion management by exacerbating or protecting cognitive processes from the harm of cultural stressors (i.e. discrimination, bias, etc.). Parental racial socialization messages inform racial-ethnic identity development as youth, hearing the cultural messages, become young adults (Reynolds et al., 2016; Zhou et al., 2019), but peer influence replaces parental or family messages as adolescents move away from the home environment and enter college (Jones, 2018). As such, parental messages may be less salient as the lived context changes. Additionally, African American college students have some control over how they perceive their environment and which socialization messages they will employ to cope with stressors. The application of racial socialization messages has been shown to vary by gender (Dunbar et al., 2015; Davis & Stevenson, 2006), campus context (PWI vs. HBCU; Meriwether, 2020), and by participant (Bannon et al., 2009; Brown & Tylka, 2011).

Past research shows that both racial socialization and racial-ethnic identity predict general college adjustment (Anglin & Wade, 2007). Future work should explore the degree to which college students adopt behaviors that reflect their embodiment of particular socialization messages or if their racial-ethnic identity reflects their experiences with socialization messages. This may help clarify if and when parent socialization messages can serve a protective function for college students experiencing stress.

Despite the absence of moderation effects some meaningful findings did emerge and are discussed next. Descriptive findings were inline with expectations, in that college-related stressors were evident for African American students, as were significant college adjustment problems in the area of sleep. These findings are consistent with recent studies showing that African American students at HBCUs reported high levels of stress (Negga et al., 2007), and poor sleep habits (Billings, 2014; Billings et al., 2013). The current study makes an important contribution to the literature by specifying the types of college stress and sleep-related college adjustment problems that are most prevalent in this student population, and also highlights some gender differences. Previous research indicated African American students experience high levels of stress on college campuses (Lipson et al., 2018), with Black students at HBCUs experiencing a unique set of stressors, including intra- and interpersonal stress (Negga et al., 2007), and the same was found in the current sample. Across the college-related stressor types frustration and self-imposed stress emerged as the most predominant types of stress experienced by African American students at an HBCU. Whereas conflict-related stress and stress associated with changes were less frequently endorsed. This is consistent with the types of supports and challenges associated with attending an HBCU. That is, HBCUs confer a lot of social support,

and there could be more or less change in terms of the demographic characteristics of the student

base. The level of comfort with the transition to an HBCU is dependent on the

school-environment students came from, such as predominantly Black, culturally mixed, or

predominantly White high schools, as well as whether students are first generation college goers.

Change-related stress was less frequently endorsed in the current study, implying there was a

smoother transition for this sample, however, this is study-specific and should not be assumed

across HBCU samples. The sample did endorse higher levels of self-imposed and frustration

related stress. HBCUs historically promote exceedingly high expectations for academic success

for their Black students, and this may contribute to the aforementioned types of stress Black

students experience on these campuses. Relatably, female HBCU students reported more

pressure-related and change-related stressors than their male counterparts, which again, may be

unique to the current study's HBCU college environment.

Frustration-related college stress emerged as an important factor in African American

students' adjustment outcomes. It was the only stressor that significantly predicted sleep-related

adjustment problems, specifically problematic sleep habits and sleep problems associated with

negative affective states. More frustration-stress was associated with more negative affective

state sleep-related problems, suggesting that frustration led to more negative emotions that

prevented adequate sleep. This is consistent with Sue and Sue's (2003) findings of increased

stress leading to higher reports of fatigue in HBCU students. However, more frustration stress

was also associated with fewer problematic sleep habits; this was an unexpected finding. Past

research indicates cognitive strain from procrastination, social habits, or decision making

contributes to problems staying awake for daily tasks, and lead to poor mental health and

physical danger (Pascoe et al., 2009), but in the current sample, it could be that HBCU students

with a lot of frustration-related stressors are working harder to overcome handicaps to their

performance that come from poor sleep habits because these are more in their control. On the

other hand, the HBCU students could be confident that their academics will work out in the end,

so they did not allow the frustration-stress to affect their sleep habits. Some prior work indicates

that African American college students adopt fewer problematic sleep habits than their White

and Hispanic counterparts (Gaultney, 2010), and it is possible that this dimension of

sleep-related behavior operates differently for African American students than does the

emotion-related sleep problems captured by the negative affective state subscale.

Given the heightened level of stress Black college students face (Lipson et al., 2018), and

the effects poor sleep have on cognition and academic achievement (Gais & Born, 2004; Pilcher

& Huffcut, 1996; Alapin et al., 2000), a key goal in this study was to examine potential buffers.

On the racial socialization front, it was important to assess the degree to which these messages

supported or hindered adaptive coping strategy usage. In this study, racial socialization messages

were not significant predictors of the use of the more negative emotion regulation strategy,

suppression. Suppression entails discounting and/or neglecting one's emotional reaction to a

stimulus (positive or negative), and is not a healthy coping strategy as the lack of emotion

validation is harmful to physical, mental, and emotional health (Gross & John, 2003). However,

it was expected that, for Black HBCU-attending students, emotion suppression may have been

embedded in racial socialization messages as a protective coping strategy in the context of bias

and discrimination (Labella, 2018; Dunbar et al., 2015; English & John, 2013). However, it is

possible that because students in this study were on an HBCU campus -- without collection of,

and little expectation for, between-group discriminatory experiences (i.e. White/Black bias) --
socialization messages and the use of suppression were not linked because the HBCU is a
low-discrimination context.

In contrast, findings indicated that receipt of parental messages regarding coping with
antagonism, cultural pride, appreciation of the Black legacy, and preparation for cultural bias
were all significantly and positively related to the use of cognitive reappraisal as an emotion
regulation/coping strategy. This is consistent with findings by Brown (2010) and Neblett and
colleagues' (2008) that cultural socialization can promote optimal adjustment. However, it is
notable that for these students, none of the racial socialization messages, except one was
associated with sleep-related adjustment. Further, that it was an association between increased
mainstream ideals socialization messaging and fewer problematic sleep habits, such that
messaging to embrace eurocentric ideals appeared adaptive. These findings contradict those of
Constantine and Blackmon (2002) that suggested hearing *more* messages reinforcing harmful
stereotypes of the Black experience leads to poor outcomes. A possible explanation for this
finding could be that racially stereotypical messages are internalized and become a normalized
expectation for African Americans, therefore the seemingly harmful stereotypes are not
adversely affecting Black HBCU-attending students who are in a more culturally affirming
college environment. Research indicates Black students feel more empowered when their
academic curricula shows respect for and pays homage to their shared Afrocentric values and
history (Gasman et al., 2004). However, it remains unclear what role socialization, versus other
important racial constructs (i.e. racial-ethnic identity), contributed. These findings highlight the

need for more integrated work to understand the roles identity and socialization play for African

American college students, and more specifically for those in an HBCU context.

Limitations and Future Research

Key limitations of this study included the sample size, and an overrepresentation of

upperclassmen and female students. This study was also a secondary analysis, therefore the

measures and methodology were preselected and constrained the study to only the measures/data

available. In the future, a mixed methodology, such as a longitudinal diary study and/or sleep

monitoring (i.e. electronic bracelet, or app for smart watch), could shed more light on the

bidirectional and temporal relationship between college stress and sleep, and provide causal

evidence for the associations, versus the sole use of self-report measures at one time-point. On

the measurement front, a limitation associated with the use of the Teenagers Experience of

Racial Socialization Scale (TERS; Stevenson et al., 2002) is that the measure was designed for

teenagers and may not be theoretically or developmentally appropriate. Notably, the TERS

measure examined the frequency participants recollected hearing the racial socialization

messages, without assessing the meaning-making of the messages; this could lead to assuming

internalization of the message types with no evidence of such. Future work should consider

alternative measures. For example, Bentley-Edwards and Stevenson's (2016) Cultural and Racial

Experiences of Socialization (CARES) or CARES-B scales could be a more appropriate fit for

college populations, as these measures assess novel socialization message constructs, such as

racial diminishment and racial ambiguity. Also, perhaps most importantly, the CARES and

CARES-B include an assessment of beliefs about, and internalization of parental socialization

messages, providing evidence for how message types are operating during emerging adulthood.

Further, while the TERS has been well established amongst college samples (Bynum et al., 2007; Barr & Neville, 2008), the CARES measure was created specifically for the college population.

Lastly, the generalizability of study findings is limited by the age of the sample; with its heavy upperclassmen representation. This is problematic because it may undermine this study's purpose; to specifically study college *adjustment*. Interpretations of the results should take this into account, as the results are less indicative of the college transition and coping strategies that would reflect the adjustment time period (freshman, and maybe sophomore years) and is more a reflection of where students are toward the end of their academic trajectory. Developmentally, harmful coping practices should decrease as one gets older (Whitty, 2003). As such, within the college context, upperclassmen or older students are expected to have better coping skills altogether than younger underclassmen (Misra et al., 2000). Future research should study HBCU students earlier in their academic trajectories so that the impact of projective factors gained from the home environment (e.g. racial socialization messages) can be understood in reference to the college adjustment process.

Conclusion

Overall, these results suggest African American college students at an HBCU require further study to understand potential buffers to mitigate stress, and particularly stress that is associated with compromised sleep in college. It is also important that more research focuses on students in HBCU contexts, and takes into consideration developmentally appropriate constructs and methodology for this population. It is unclear the role that cultural factors play in African American or Black students' college adjustment, and the degree to which they play a large role given the more culturally affirming context of an HBCU.

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Appendix A: Sample Descriptives

Demographic Charateristics

Characteristic	Full Sample	
	n	*%*
Gender		
Male	54	28.9%
Female	133	71.1%
Race/Ethnicity		
Black or African American	187	100%
Participant Education Level		
Freshman in College	24	12.8%
Sophomore in College	29	15.5%
Junior in College	35	18.7%
Senior in College	94	50.3%
Graduate Student	5	2.7%
Maternal Education Level		
Some High School	14	7.5%
High School Diploma	74	39.6%
Bachelors Degree	45	24.1%
Masters Degree	27	14.4%
Doctorate Degree	4	2.1%
Professional Certificate	15	8%
Other	8	4.3%
Paternal Education Level		
Some High School	13	7%
High School Diploma	101	54%
Bachelors Degree	36	19.3%
Masters Degree	14	7.5%
Doctorate Degree	6	3.2%
Professional Certificate	7	3.7%
No Formal Education	4	2.1%
Other	6	3.2%

Note. $N = 187$. Participants were on average 21.98 years old ($SD = 3.58$).

Appendix B

Variable List with Measure Items

Demographic Variables

- Age

- Gender: [Gender] 1- Male, 2- Female

- Ethnicity: [Eth_1 = 3 Black/African American]

- Childhood neighborhood urbanicity: [Neigh]

- Childhood neighborhood ethnic makeup: [Neigh2]

- Student education level: [Edu]

- Primary caregiver: [Fam2]

- Parental education levels: [Edu_Mom and Edu_Fa]

Primary Independent Variable

Student Stress (SSI; Gadzella, 1991, 1994; Gadzella et al., 2001; α = .92)

- *Frustrations* (α = .70) As a student:

  1. I have experienced frustrations due to delays in reaching my goals.

  2. I have experienced daily hassles which affected me in reaching my

  goals.

  3. I have experienced a lack of sources (money for auto, books, etc.).

  4. I have experienced failures in accomplishing the goals that I set.

  5. I have not been accepted socially (became a social outcast).

  6. I have experienced dating frustrations.

  7. I feel I was denied opportunities in spite of my qualifications.

- ◦ *Conflicts* (α = .68) I have experienced conflicts which were:

  8. Produced by two or more desirable alternatives.

  9. Produced by two or more undesirable alternatives.

  10. Produced when a goal had both positive and negative alternatives.

- ◦ *Pressures* (α = .80) I experienced pressures:

  11. As a result of competition (on grades, work, relationships with spouse and/or friends).

  12. Due to deadlines (papers due, payments to be made, etc.).

  13. Due to an overload (attempting too many things at one time).

  14. Due to interpersonal relationships (family and/or friends, expectations, work

  responsibilities).

- ◦ *Changes* (α = .86) I have experienced:

  15. Rapid unpleasant changes.

  16. Too many changes occurring at the same time.

  17. Change which disrupted my life and/or goals.

- ◦ *Self-Imposed* (α = .63) As a person:

  18. I like to compete and win.

  19. I like to be noticed and be loved by all.

  20. I worry a lot about everything and everybody.

  21. I have a tendency to procrastinate (put off things that have to be done).

  22. I feel I must find a perfect solution to the problems I undertake.

  23. I worry and get anxious about taking tests.

Moderating Variables

Racial Socialization (TERS; Stevenson et al., 2002; α = .91; Moderating Variable)

- *Coping with Antagonism* (α = .85)

  37. Only God can protect against racism

  20. Families who talk openly about religion or God are helping their children to grow

  21. Teachers can help with signs of Black culture

  27. Train up a child and he will not depart

  19. Depending on religion and God can help a person make good life decisions

  26. Black history helps survive hostile world

  18. Schools should teach Black history

  8. Having large families helps life struggles

  31. Black schools make children feel better

  25. Spiritual battles are more important than physical battles

  6. Religion is an important part of a person's life

  5. Relatives help parents raise their children

  3. Close families attend church or mosque

- *Cultural Pride Reinforcement* (α = .83)

  23. Education is the only way to survive racism.

  30. Be proud of who you are.

  33. Never be ashamed of your color.

  9. You should be proud to be Black.

  11. Work hard, overcome barriers.

24. Don't forget who your people are.

12. God's beliefs help us cope.

32. We live in two worlds- Black and White.

40. Racism is not as bad today as before the 1960s.

- *Appreciation of Legacy* (α = .74)

  16. We are connected to African royalty history

  15. Racism is real and you have to understand it

  7. Racism and discrimination are hard to face

  4. Important to never forget Black enslavement

  14. Knowing African culture is important

- *Alertness to Discrimination / Preparation for Bias* (α = .76)

  34. Whites have more opportunities than Blacks

  28. Has to work twice as hard as Whites

  38. Blacks don't have the same opportunities as Whites

  29. Whites make it hard for Blacks to get ahead

  35. Black child will be harassed for being Black

  36. More jobs to Blacks if no racists

- *Endorsement Of Mainstream Ideals* (α = .71)

  2. Black children feel better in White schools

  13. Black children learn more in White schools

  1. Society is fair to African Americans

  17. Talking about racism leads to not reaching goals

39. Don't have to know Africa

22. Only blood-related are considered family

Emotional Regulation (ERQ; Gross & John, 2003; α = .69; also serving as a mediating variable)

- *Reappraisal subscale (α = .79)*

  1. When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about.

  3. When I want to feel less negative emotion (such as sadness or anger) I change what I'm thinking about.

  5. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.

  7. When I want to feel more positive emotion, I change the way I'm thinking about the situation.

  8. I control my emotions by changing the way I think about the situation I'm in.

  10. When I want to feel less negative emotion, I change the way I'm thinking about the situation.

- *Suppression subscale (α = .73)*

  2. I keep my emotions to myself.

  4. When I am feeling positive emotions, I am careful not to express them.

  6. I control my emotions by changing the way I think about the situation I'm in.

  9. When I am feeling negative emotions, I make sure not to express them.

Outcomes/Dependent Variables

Sleep/Wake Problem Behaviors Scale (subscale from School Sleep Habits Survey; Shahid et al., 2012; α = .75)

- ◦ *Problems Staying Awake* During the past two weeks, have you struggled to stay awake (fought sleep) or fallen asleep in the following situations?

    1. in a face-to-face conversation with another person?

    2. traveling in a bus, train, plane or car?

    3. attending a performance (movie, concert, play)?

    4. watching television or listening to the radio or stereo?

    5. reading, studying, or doing homework?

    6. during a test?

    7. in a class at school?

    8. while doing work on a computer or typewriter?

    9. playing video games?

    10. driving a car?

    11. do you drive?

- ◦ *Stimulant/Sleep Aid Use* During the last two weeks, how often did you…

    12. drink soda with caffeine (like Coke, Pepsi, root beer, orange soda or Sprite)?

    13. drink coffee or tea with caffeine?

    14. use tobacco (cigarettes, cigar, chewing, tobacco, etc.)?

    15. drink alcohol (beer, wine, liquor)?

    16. use drugs (like marijuana, cocaine)?

◦ *Problematic Sleep Habits* In the last two weeks, how often have you…

17. felt satisfied with your sleep? R

18. arrived late to class because you overslept?

19. fallen asleep in a morning class?

20. fallen asleep in an afternoon class?

21. awakened too early in the morning and could not get back to sleep?

22. stayed up until at least 3 a.m.?

23. stayed up all night?

24. slept in past noon?

25. felt tired, dragged out, or sleepy during the day?

26. needed more than one reminder to get up in the morning?

27. had an extremely hard time falling asleep?

28. had nightmares or bad dreams during the night?

29. gone to bed because you just could not stay awake any longer?

30. done dangerous things without thinking?

31. had a good night's sleep? R

◦ *Negative Affective State* During the last two weeks, how often were you bothered or troubled by the following?

32. feeling too tired to do things

33. having trouble going to sleep or staying asleep

34. feeling unhappy, sad, or depressed

35. feeling hopeless about the future

36. feeling nervous or tense

37. worrying too much about things

Appendix C: Variable Descriptives

Descriptive table of Independent and Dependant Variables

Variable	M	SD	Minimum	Maximum	Skewness		Kurtosis	
					Statistic	SE	Statistic	SE
College Student Stress (IV) total score	73.51	16.37	23.00	115.00				
Frustration Stress	21.35	5.57	7.00	35.00	0.13	.18	-.01	.35
Conflict Stress	8.48	2.80	3.00	15.00	0.16	.18	.10	.35
Pressures Stress	13.96	3.90	4.00	20.00	-0.28	.18	-.24	.35
Changes Stress	9.28	3.09	3.00	15.00	0.10	.18	-.53	.35
Self-Imposed Stress	20.44	4.49	6.00	30.00	-0.36	.18	.43	.35
Racial Socialization (Moderating Variable) total score								
Coping with Antagonism	27.68	5.83	13.00	39.00	-0.49	.18	.07	.35
Cultural Pride Reinforcement	20.94	4.15	9.00	27.00	-1.00	.18	.74	.35
Appreciation of Legacy	11.57	2.69	5.00	15.00	-0.76	.18	-.003	.35
Preparation for Bias	13.12	3.46	6.00	18.00	-0.36	.18	-.62	.35
Mainstream Ideals	7.12	2.05	5.00	14.00	0.82	.18	.66	.35
Emotion Regulation (Mediating Variable)								
Cognitive Reappraisal	31.45	7.45	6.00	42.00	-0.39	.18	-.10	.35
Suppression	17.12	5.26	4.00	28.00	-0.02	.18	.09	.35
College Adjustment; Sleep/Wake Problems (DV) total score	89.76	8.34	58.00	112.00				
Problems Staying Awake	17.16	6.00	10.00	38.00	0.81	.18	-.14	.35
Stimulant/Sleep Aid Use	10.13	3.46	5.00	23.00	0.78	.18	.76	.35
Problematic Sleep Habits	51.07	7.42	31.00	68.00	-0.30	.18	-.31	.35
Negative Affective State	11.40	2.95	6.00	18.00	0.39	.18	-0.24	.35

Note. Total scores for the College Student Stress, Racial Socialization, and College Adjustment variables can be interpreted as higher scores indicating higher reported experience of the variables.

Appendix D: Full Sample Correlations

Descriptive Statistics and Correlations of Study Variables for Full Sample

Variable	*M*	*SD*	1	2	3	4
1. Age	21.98	3.58	-			
2. Participant Education Level	4.14	1.12	.469**	-		
3. Mothers Education Level	3.10	1.65	.011	.013	-	
4. Fathers Education Level	2.82	1.58	-.093	-.106	.315**	-
5. Frustration Stress	21.35	5.57	-.056	-.009	-.045	.079
6. Conflict Stress	8.48	2.80	-.006	.049	.052	.099
7. Pressures Stress	13.96	3.90	-.099	-.049	.058	.073
8. Changes Stress	9.28	3.09	-.083	-.023	.034	.142
9. Self-Imposed Stress	20.44	4.49	-.184*	-.099	.084	.129
10. Coping with Antagonism	27.68	5.83	-.115	-.030	.035	.011
11. Cultural Pride Reinforcement	20.94	4.15	-.171*	-.037	.105	.025
12. Appreciation of Legacy	11.57	2.69	-.199**	-.061	.023	.042
13. Preparation for Bias	13.12	3.46	-.181*	-.069	.032	.034
14. Mainstream Ideals	7.12	2.05	.064	.133	-.057	-.080
15. Cognitive Reappraisal	31.45	7.45	.073	.122	-.176*	-.034
16. Suppression	17.12	5.26	-.014	-.064	-.012	-.006
17. Problems Staying Awake	17.16	6.00	-.059	.036	-.091	.079
18. Stimulant/Sleep Aid Use	10.13	3.46	.085	.198**	.014	.015
19. Problematic Sleep Habits	51.07	7.42	-.009	.005	.106	-.049
20. Negative Affective State	11.40	2.95	-.109	-.123	-.107	.126

Note. The total sample consisted of 187 participants (*N* = 187).
*$p < .05$. **$p < .01$.

5	6	7	8	9	10	11	12	13
-								
.697**	-							
.551**	.512**	-						
.734**	.664**	.672**	-					
.541**	.406**	.605**	.571**	-				
.137	.119	.223**	.199**	.233**	-			
-.015	-.031	.200**	.014	.216**	.740**	-		
.153*	.076	.270**	.169*	.278**	.731**	.757**	-	
.192**	.143	.390**	.200**	.275**	.543**	.655**	.674**	-
.170*	.174*	-.013	.096	.048	.223**	.003	.092	.114
.060	-.064	.042	-.051	.094	.246**	.251**	.282**	.157*
.237**	.231**	.235**	.207**	.209**	-.030	.006	-.069	.036
.189**	.119	.123	.129	.217**	.029	-.107	.003	-.036
.118	.088	.006	.048	.094	-.005	-.011	.005	-.063
-.246**	-.203**	.002	-.070	-.088	-.011	.148*	.043	.040
.482**	.343**	.411**	.450**	.321**	.031	-.009	-.001	.166*

14	15	16	17	18	19	20
-						
-.117	-					
.078	.061	-				
.297**	-.022	.017	-			
.110	-.029	-.051	.151*	-		
-.316**	.027	-.136	-.411**	-.218**	-	
.103	-.042	.312**	.158*	-.010	-.140	-

Appendix E: Gendered Correlation Table

Descriptive Statistics and Correlations of Study Variables for Female and Male Participants

Variable	Female		Male		1	2
	M	SD	M	SD		
1. Age	21.86	3.81	22.28	2.97	-	.494**
2. Participant Education Level	4.12	1.16	4.20	1.04	.379**	-
3. Mothers Education Level	3.14	1.77	2.98	1.33	-0.08	-0.04
4. Fathers Education Level	2.84	1.57	2.76	1.60	-0.03	0.08
5. Frustration Stress	21.43	5.72	21.15	5.23	-0.18	0.16
6. Conflict Stress	8.57	2.86	8.27	2.65	-0.09	0.21
7. Pressures Stress	14.61	3.69	12.35	3.96	-.284*	-0.06
8. Changes Stress	9.66	3.08	8.35	2.95	-0.22	0.04
9. Self-Imposed Stress	20.66	4.26	19.89	5.02	-.294*	0.00
10. Coping with Antagonism	27.99	5.90	26.93	5.64	-0.21	0.00
11. Cultural Pride Reinforcement	21.24	4.11	20.19	4.19	-.301*	-0.06
12. Appreciation of Legacy	11.82	2.70	10.96	2.60	-.292*	0.00
13. Preparation for Bias	13.53	3.44	12.11	3.34	-0.06	0.05
14. Mainstream Ideals	6.85	1.73	7.78	2.57	0.02	0.12
15. Cognitive Reappraisal	31.52	7.85	31.27	6.41	0.02	0.06
16. Suppression	16.84	5.50	17.80	4.58	0.00	-0.06
17. Problems Staying Awake	16.84	5.46	17.92	7.17	-0.02	0.02
18. Stimulant/Sleep Aid Use	10.32	3.27	9.69	3.88	-0.02	0.16
19. Problematic Sleep Habits	51.49	7.12	50.05	8.07	-0.15	-0.05
20. Negative Affective State	11.78	2.93	10.46	2.83	0.02	-0.16

Note. The results for the female sample (*n* = 133) are shown above the diagonal. The results for the male sample (*n* = 54) are shown below the diagonal.
p < .05. **p* < .01.

3	4	5	6	7	8	9	10	11
0.04	-0.11	-0.02	0.02	-0.02	-0.03	-0.14	-0.08	-0.12
0.03	-.172*	-0.06	0.00	-0.04	-0.04	-0.14	-0.04	-0.03
-	.300**	-0.06	0.06	0.12	0.03	0.13	0.10	.209*
.372**	-	0.07	0.13	0.04	0.10	0.10	0.06	0.10
-0.01	0.10	-	.678**	.578**	.750**	.507**	0.09	-0.09
0.01	0.02	.753**	-	.480**	.663**	.436**	0.12	-0.06
-0.17	0.14	.536**	.617**	-	.682**	.671**	.257**	.188*
0.02	0.25	.727**	.683**	.598**	-	.565**	.185*	-0.02
-0.04	0.19	.632**	.340*	.485**	.583**	-	0.16	.196*
-0.19	-0.12	.268*	0.11	0.09	0.19	.382**	-	.754**
-0.25	-0.17	0.17	0.02	0.15	0.01	0.24	.696**	-
-0.12	0.03	.336*	0.13	0.27	0.24	.440**	.677**	.636**
-0.24	-0.04	0.26	0.22	.306*	0.14	.288*	.584**	.661**
-0.04	0.02	.316*	.310*	0.18	.343*	0.27	.431**	0.05
-0.21	-0.06	0.10	-0.14	0.04	-0.10	.287*	0.12	0.19
-0.03	0.17	0.03	-0.14	0.13	0.08	0.18	-0.02	0.09
-.293*	0.12	.482**	.375**	.404**	.406**	.462**	0.21	-0.07
-0.18	-0.24	0.23	.277*	0.18	0.22	.291*	0.07	-0.05
0.00	-0.03	-.305*	-0.26	-0.12	-0.20	-0.26	-0.26	-0.04
-0.15	0.19	0.23	0.25	.273*	0.22	0.14	0.20	0.05

The total sample ($N = 187$) reported a mean age of 21.98 years old ($SD = 3.58$).

12	13	14	15	16	17	18	19	20
-0.17	-.211*	0.07	0.09	-0.02	-0.09	0.13	0.05	-0.14
-0.08	-0.10	0.14	0.14	-0.07	0.04	.222*	0.03	-0.10
0.06	0.10	-0.06	-0.17	0.00	-0.01	0.08	0.14	-0.11
0.04	0.06	-0.14	-0.03	-0.06	0.06	0.14	-0.06	0.10
0.09	0.17	0.11	0.05	.305**	0.06	0.07	-.227**	.580**
0.05	0.10	0.13	-0.04	.355**	0.00	0.00	-.189*	.375**
.234**	.382**	-0.04	0.04	.318**	0.01	-0.12	0.03	.424**
0.11	.183*	0.03	-0.04	.276**	0.02	-0.05	-0.04	.504**
.194*	.257**	-0.07	0.02	.237**	0.08	-0.03	-0.01	.393**
.749**	.522**	0.15	.287**	-0.03	-0.05	-0.05	0.09	-0.05
.800**	.644**	0.01	.272**	-0.01	-0.11	-0.01	.224**	-0.07
-	.676**	0.06	.281**	-0.09	-0.06	0.00	0.11	-0.07
.639**	-	0.11	0.16	0.04	-0.13	-0.09	0.14	0.10
0.25	0.26	-	-0.03	0.06	0.08	0.03	-0.14	0.11
.290*	0.15	-.315*	-	-0.01	-0.03	-0.05	-0.03	-0.02
0.03	0.09	0.08	.319*	-	-0.02	-0.06	-0.15	.442**
0.16	0.20	.560**	0.00	0.09	-	0.00	-.394**	0.09
-0.02	-0.06	.277*	0.02	0.01	.415**	-	-.302**	-0.02
-0.16	-0.25	-.564**	0.17	-0.09	-.432**	-0.09	-	-0.13
0.06	0.22	0.24	-0.14	0.02	.363**	-0.05	-0.23	-

Appendix F: Hierarchical Multiple Regression with College Stressors and Problems Staying Awake

Hierarchical Multiple Regression Results for College Stressros and Sleep-Related Adjustment with Problems Staying Awake

Variable	B	95% CI for B		SE B	β	t	Adj. R2	ΔR2
		LL	UL					
Step 1 (*F*(5, 181) = 1.38, *p* = 0.234)							0.01	0.04
Constant	20.51***	13.67	27.36	3.47	-	5.91		
Gender	-1.07	-2.98	0.84	0.97	-0.08	-1.11		
Age	-0.16	-0.43	0.12	0.14	-0.09	-1.13		
Participant Education Level	0.49	-0.38	1.36	0.44	0.09	1.11		
Maternal Education Level	-0.46	-1.01	0.09	0.28	-0.13	-1.64		
Paternal Education Level	0.47	-0.12	1.05	0.30	0.12	1.58		
Step 2 (*F*(10, 176) = 1.72, *p* = .079)							0.04	0.05
Constant	12.77**	4.45	21.09	4.22	-	3.03		
Gender	-1.14	-3.14	0.86	1.01	-0.09	-1.13		
Age	-0.10	-0.37	0.17	0.14	-0.06	-0.72		
Participant Education Level	0.50	-0.37	1.36	0.44	0.09	1.13		
Maternal Education Level	-0.47	-1.02	0.09	0.28	-0.13	-1.67		
Paternal Education Level	0.39	-0.19	0.97	0.30	0.10	1.31		
Frustration Stress	0.13	-0.13	0.39	0.13	0.12	0.97		
Conflict Stress	-0.02	-0.47	0.44	0.23	-0.01	-0.07		
Pressures Stress	0.02	-0.31	0.35	0.17	0.01	0.12		
Changes Stress	-0.13	-0.61	0.36	0.25	-0.06	-0.51		
Self-Imposed Stress	0.25	-0.01	0.51	0.13	0.19	1.91		

Note. CI = confidence interval; LL = lower limit; UL = upper limit; Socialization = racial socialization subcategory; Coping = emotion regulatory coping (ERQ)

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

Appendix G: Hierarchical Multiple Regression for College Stressors and Stimulant/Sleep Aid Use

Hierarchical Multiple Regression Results for College Stressros and Sleep-Related Adjustment with Stimulant/Sleep Aid Use

Variable	B	95% CI for B		$SE\ B$	β	t	$Adj.\ R2$	$\Delta R2$
		LL	UL					
Step 1 ($F(5, 181) = 1.85$, $p = .105$)							0.02	0.05
Constant	6.22	2.30	10.15	1.99	-	3.13		
Gender	0.68	-0.42	1.77	0.55	0.09	1.22		
Age	0.00	-0.16	0.15	0.08	0.00	-0.05		
Participant Education Level	0.64*	0.14	1.14	0.25	0.21*	2.52		
Maternal Education Level	-0.01	-0.32	0.31	0.16	0.00	-0.04		
Paternal Education Level	0.08	-0.26	0.41	0.17	0.04	0.46		
Step 2 ($F(10, 176) = 1.62$, $p = .105$)							0.02	0.06
Constant	3.379	-1.43	8.19	2.44	-	1.39		
Gender	1.01	-0.14	2.17	0.59	0.13	1.73		
Age	0.01	-0.15	0.17	0.08	0.01	0.13		
Participant Education Level	0.63*	0.13	1.13	0.25	0.20*	2.49		
Maternal Education Level	0.01	-0.31	0.33	0.16	0.00	0.05		
Paternal Education Level	0.05	-0.29	0.39	0.17	0.02	0.30		
Frustration Stress	0.11	-0.04	0.26	0.08	0.17	1.40		
Conflict Stress	0.05	-0.21	0.31	0.13	0.04	0.38		
Pressures Stress	-0.13	-0.32	0.06	0.10	-0.15	-1.37		
Changes Stress	-0.13	-0.41	0.16	0.14	-0.11	-0.88		
Self-Imposed Stress	0.11	-0.04	0.26	0.08	0.15	1.49		

Note. CI = confidence interval; LL = lower limit; UL = upper limit; Socialization = racial socialization subcategory; Coping = emotion regulatory coping (ERQ)

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

Appendix H: Hierarchical Multiple Regression for Problematic Sleep Habits

Hierarchical Multiple Regression Results for College Maladjustment Related to Problematic Sleep Habits

Variable	B	95% CI for B		SE B	β	t	Adj. R2	ΔR2
		LL	UL					
Step 1 ($F(5, 181) = 0.97, p = 0.44$)							-0.001	.026
Constant	48.77***	40.27	57.28	4.31	-	11.32		
Gender	1.37	-1.00	3.73	1.20	0.08	1.14		
Age	-0.03	-0.37	0.31	0.17	-0.02	-0.19		
Participant Education Level	0.02	-1.06	1.11	0.55	0.00	0.04		
Maternal Education Level	0.59	-0.09	1.28	0.35	0.13	1.70		
Paternal Education Level	-0.44	-1.16	0.29	0.37	-0.09	-1.20		
Step 2 ($F(17, 169) = 2.80, p < .001$)							0.07	.098**
Constant	56.71***	46.63	66.79	5.11	-	11.10		
Gender	0.37	-2.05	2.79	1.23	0.02	0.30		
Age	-0.05	-0.38	0.29	0.17	-0.02	-0.27		
Participant Education Level	0.12	-0.93	1.17	0.53	0.02	0.23		
Maternal Education Level	0.51	-0.17	1.17	0.34	0.11	1.49		
Paternal Education Level	-0.36	-1.06	0.35	0.36	-0.08	-1.00		
Frustration Stress	-0.43**	-0.75	-0.12	0.16	-0.33**	-2.73		
Conflict Stress	-0.47	-1.02	0.09	0.28	-0.18	-1.67		
Pressures Stress	0.29	-0.11	0.69	0.20	0.15	1.45		
Changes Stress	0.52	-0.07	1.12	0.30	0.22	1.75		
Self-Imposed Stress	-0.1	-0.42	0.21	0.16	-0.06	-0.64		

Note. CI = confidence interval; LL = lower limit; UL = upper limit; Socialization = racial socialization subcategory; Coping = emotion regulatory coping (ERQ)
*$p < .05$. **$p < .01$. ***$p < .001$.

Appendix I: Hierarchical Multiple Regression for Negative Affective State

Hierarchical Multiple Regression Results for College Maladjustment Related to Negative Affective State

Variable	B	95% CI for B		$SE\ B$	β	t	$Adj.\ R2$	$\Delta R2$
		LL	UL					
Step 1 ($F(5, 181)$) = 3.71, p = .003)							0.07	0.09**
Constant	10.90***	7.63	14.16	1.66		6.58		
Gender	1.30**	0.39	2.21	0.46	0.20**	2.83		
Age	-0.04	-0.17	0.09	0.07	-0.05	-0.58		
Participant Education Level	-0.20	-0.61	0.22	0.21	-0.08	-0.93		
Maternal Education Level	-0.30*	-0.56	-0.03	0.13	-0.17*	-2.22		
Paternal Education Level	0.30*	0.02	0.58	0.14	0.16*	2.14		
Step 2 ($F(10, 176)$ = 8.31, p < .001)							0.28	.228***
Constant	5.40**	-0.01	8.30	1.79		3.02		
Gender	0.93*	0.42	2.10	0.43	0.14*	2.16		
Age	-0.01	-0.14	0.09	0.06	-0.01	-0.16		
Participant Education Level	-0.23	-0.55	0.17	0.19	-0.09	-1.23		
Maternal Education Level	-0.25*	-0.51	-0.04	0.12	-0.14*	-2.10		
Paternal Education Level	0.21	0.01	0.48	0.13	0.11	1.67		
Frustration Stress	0.19**	0.08	0.30	0.06	0.36**	3.37		
Conflict Stress	-0.03	-0.28	0.10	0.10	-0.03	-0.35		
Pressures Stress	0.11	-0.06	0.23	0.07	0.15	1.55		
Changes Stress	0.08	-0.12	0.29	0.11	0.08	0.74		
Self-Imposed Stress	-0.01	-0.11	0.11	0.06	-0.02	-0.20		

Note. CI = confidence interval; LL = lower limit; UL = upper limit; Socialization = racial socialization subcategory; Coping = emotion regulatory coping (ERQ)

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

Appendix J: Hierarchical Multiple Regression for Racial Socialization & Suppression

Hierarchical Multiple Regression Results for Racial Socialization and Emotion Suppression

Variable	B	95% CI for B		SE B	β	t	Adj. R2	ΔR2
		LL	UL					
Step 1 (F(5, 181) = .43, p = .827)							-0.02	0.01
Constant	19.87***	13.79	25.94	3.08	-	6.45		
Gender	-0.98	-2.67	0.72	0.86	-0.08	-1.14		
Age	0.02	-0.22	0.27	0.12	0.02	0.19		
Participant Education Level	-0.35	-1.13	0.42	0.39	-0.08	-0.90		
Maternal Education Level	-0.01	-0.51	0.48	0.25	0.00	-0.06		
Paternal Education Level	-0.03	-0.55	0.49	0.26	-0.01	-0.11		
Step 2 (F(10, 176) = .74, p = .687)							-0.01	0.03
Constant	18.30***	10.25	26.35	4.08	-	4.49		
Gender	-0.79	-2.56	0.99	0.90	-0.07	-0.88		
Age	0.02	-0.23	0.27	0.13	0.01	0.16		
Participant Education Level	-0.41	-1.19	0.38	0.40	-0.09	-1.02		
Maternal Education Level	-0.05	-0.54	0.45	0.25	-0.02	-0.19		
Paternal Education Level	0.01	-0.51	0.53	0.26	0.00	0.03		
Coping with Antagonism Socialization	-0.05	-0.28	0.17	0.11	-0.06	-0.46		
Cultural Pride Reinforcement Socialization	0.18	-0.16	0.52	0.17	0.14	1.06		
Appreciation of Legacy Socialization	-0.42	-0.93	0.09	0.26	-0.22	-1.64		
Preparation for Bias Socialization	0.18	-0.14	0.50	0.16	0.12	1.10		
Mainstream Ideals Socialization	0.24	-0.18	0.66	0.21	0.09	1.13		

Note. CI = confidence interval; LL = lower limit; UL = upper limit; Socialization = racial socialization subcategory

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

Appendix K: Hierarchical Multiple Regression for Racial Socialization & Reappraisal

Hierarchical Multiple Regression Results for Racial Socialization and Cognitive Reappraisal

Variable	B	95% CI for B		SE B	β	t	Adj. R2	ΔR2
		LL	UL					
Step 1 (*F*(5, 181) = 1.87, *p* = .101)							0.02	0.05
Constant	28.44***	20.00	36.87	4.28	-	6.65		
Gender	0.46	-1.89	2.81	1.19	0.03	0.38		
Age	0.05	-0.29	0.39	0.17	0.03	0.30		
Participant Education Level	0.78	-0.29	1.86	0.55	0.12	1.44		
Maternal Education Level	-0.87*	-1.55	-0.19	0.35	-0.19*	-2.51		
Paternal Education Level	0.19	-0.53	0.91	0.36	0.04	0.53		
Step 2 (*F*(10, 176) = 4.02, *p* < .001)							0.14	0.14***
Constant	20.28***	9.79	30.78	5.32	-	3.81		
Gender	-0.86	-3.17	1.45	1.17	-0.05	-0.73		
Age	0.19	-0.14	0.51	0.16	0.09	1.15		
Participant Education Level	0.85	-0.17	1.87	0.52	0.13	1.65		
Maternal Education Level	-0.96**	-1.60	-0.31	0.33	-0.21**	-2.92		
Paternal Education Level	0.14	-0.54	0.81	0.34	0.03	0.40		
Coping with Antagonism Socialization	0.17	-0.12	0.46	0.15	0.13	1.14		
Cultural Pride Reinforcement Socialization	0.11	-0.34	0.55	0.23	0.06	0.47		
Appreciation of Legacy Socialization	0.62	-0.05	1.28	0.34	0.22	1.83		
Preparation for Bias Socialization	-0.08	-0.50	0.34	0.21	-0.04	-0.39		
Mainstream Ideals Socialization	-0.75**	-1.30	-0.21	0.28	-0.21**	-2.73		

Note. CI = confidence interval; LL = lower limit; UL = upper limit; Socialization = racial socialization subcategory

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

Appendix L: Problematic Sleep Habits Moderation Table

Moderation Analyses Results for the Problematic Sleep Habits Outcome

Variable	β	t	p
Frustration Stress (IV), Mainstream Ideals Socialization (MV)			
Constant	49.80	12.26	0.001***
Frustration Stress	-0.25	-2.70	0.008**
Mainstream Ideals Socialization	-5.34	-3.56	0.001***
Int_1; Frustrations x Mainstream Ideals Socialization	-0.15	-0.63	0.529
Frustration Stress (IV), Cultural Pride Socialization (MV)			
Constant	47.75	11.37	0.001***
Frustration Stress	-0.32	-3.39	0.001***
Cultural Pride Socialization	0.23	1.79	0.076
Int_1; Frustrations x Cultural Pride Socialization	-0.03	-1.47	0.143

Note. MV= Moderating Variable; Stress = type of college stressor; Socialization = racial socialization subcategory

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

Appendix M: Problems Staying Awake Moderation Table

Moderation Analysis Results for the Problems Staying Awake Outcome

Variable	β	t	p
Self-Imposed Stress (IV), Mainstream Ideals Socialization (MV)			
Constant	4.58	12.49	0.001***
Self-Imposed Stress	0.03	2.83	0.005**
Mainstream Ideals Socialization	0.46	3.52	0.001***
Int_1; Self-Imposed x Mainstream Ideals Socialization	0.03	1.44	0.151

Note. MV= Moderating Variable; Stress = type of college stressor; Socialization = racial socialization subcategory
*p < .05. **p < .01. ***p < .001.

Appendix N: Negative Affective State Moderation Table

Moderation Analyses Results for the Negative Affective State Outcome

Variable	β	*t*	*p*
Frustration Stress (IV), Suppression Coping (MV)			
Constant	10.38	7.33	0.001***
Frustration Stress	0.21	6.44	0.001***
Suppression Coping	0.13	3.62	0.0004***
Int_1; Frustrations x Suppression Coping	0.001	0.17	0.863

Note. MV= Moderating Variable; Stress = type of college stressor; Socialization = racial socialization subcategory; Coping = emotion regulatory coping (ERQ)
*p < .05. **p < .01. ***p < .001.

Appendix O: Negative Affective State Double Moderation

Double Moderation Analysis Results for the Negative Affective State Outcome

Variable	β	t	p
Frustration Stress (IV), Appreciation of Legacy Socialization (MV1), Suppression Coping (MV2)			
Constant	10.64	7.50	.0000***
Frustration-Related Stress	0.23	6.67	.0000***
Appreciation of Legacy Socialization	-0.11	-1.53	0.128
Int_1; Frustration Stress (IV), Appreciation of Legacy Socialization (MV1)	0.01	0.88	0.380
Suppression Coping	0.12	3.45	.001***
Int_2; Frustration Stress (IV), Suppression Coping (MV2)	0.00	0.22	0.825

Note. MV= Moderating Variable; Stress = type of college stressor; Socialization = racial socialization subcategory; Coping = emotion regulatory coping (ERQ)

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