PERCEIVED RACISM: A COMPREHENSIVE MODEL

OF IDENTITY-RELATED ANTECEDENCES,

MODERATORS, AND CONSEQUENCES

by

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ABSTRACT

The phenomenon of racism has been a growing social-issue and continues today. This study examines the antecedences, moderators, and consequences of perceived racism to better understand this phenomenon and help reduce its negative consequences. Specifically, we investigated how perceived racism including discrimination and microaggressions influence students' academic achievement, stress and somatic symptoms. We also examined the effect the participant's personal racial identity as a possible antecedence for perceived racism, and self-esteem as a mediator and moderator. A self-reported survey study (n=329) was conducted using undergraduates including Latino American, African American, and Caucasian American students. Correlation analysis, mediation test, moderation test and path analysis were conducted to examine the proposed model. Results found that more perceived racism was associated with higher stress levels, more somatic symptoms, and less academic achievement. Specifically, microaggressions had a direct effect on all outcome measures, whereas discrimination's effect is indirect via reducing self-esteem. It is worth mentioning that racial identity was found to have two opposite impacts—a dominant positive effect by promoting self-esteem and a minor negative effect by perceiving more microaggression. Self-esteem was also found to have both positive impact and negative impact—a major direct positive effect on all outcome measures and a minor negative effect by aggravating the negative impact of microaggression on academic achievement. In sum, this study implies that racism especially microaggression harms individuals in many aspects; racial identity and self-esteem are protective factors to counteract its negative impact. These findings help reveal the mechanism of how racism is perceived and evolves, and provide suggestions to reduce its negative consequences in the future.

I. LITERATURE REVIEW

Throughout history, the United States of America has had a contentious

relationship with the discrimination of race, or "racism." Racism is embedded in the

roots of America – beginning with the mass genocide of Native Americans then followed

by slavery, Jim Crow laws, and segregation (Milner, 1983). Due to the embedded

history, the United States has with racism, many groups of people are dehumanized and

viewed as "less than" by others. This viewpoint can be blatantly there, or can be

something that is subtly offensive to people – also known as a "microaggression."

Research on the scope of racism and its effects on social institutions is extensive, but

more research focused on the individual person is needed, such as how people who are

marginalized internalize this burden and what effects this has on other aspects of their life

(Chu-Lien Chao, Longo, Wang, Dasgupta, & Fear, 2014; Grossman & Porche, 2014).

This study will examine how people perceive racism and whether other identity-related

factors influence perceived racism and its multifold consequences.

Racial Identity and Perceived Racism

Psychologists from multiple fields recognize the existence of self-identity and

define this concept as an ever-evolving one in which we work, form relationships, and

analyze or rationalize our interactions with others within ourselves to create our own

morals and beliefs (Conn, 1977). Research has found that during adolescence and young

adulthood, humans develop the majority of how they identify themselves and justify their

morals (Jensen & Jetten, 2016). The idea that our personal identity influences our

success and achievement in many realms of life is not a new concept either, but

researching whether this crucial development in humans is affected by our race is an

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overdue topic that is now being examined (Allen, Spencer, O'Connor, Dano, & Epps, 2002; Jensen & Jetten, 2016; McClain et al., 2016). Within our identity we have several different subtypes – self-concept, self-esteem, and reference groups. Self-concept is how one perceives themselves, self-esteem is how one values themselves, and reference groups are the group in which we identify being apart of (i.e. race, sex, gender, etc.), all of which can overlap (Cokley, 2014).

Racial identity, which is a part of self-identity refers to the personal significance a collective racial group has on oneself, as well as the social significance of belonging to this group (Helms & Cook, 1999; Tatum, 2014). A racial group is the social category one belongs to within society based on their physical appearance (American Anthropological Association). Due to the categorization methods used in the United States, and for the majority of other nations, we are programmed to view ourselves and everyone else from a racial perspective (Cokley, 2014). This categorization is not unique to just the United States, but the literature used within this study will focus mostly on the categorization methods used within the United States. Although many scholars and researchers agree that race itself does not truly exist biologically, it has been established as a socially constructed concept used to categorize individuals throughout history and in society by scholars alike (Mukhopadhyay & Henze, 2003). Race itself was previously used as a mechanism to rank individuals within the colonial era, but within today's society it is used more as a categorization method (American Anthropological Association).

Racial identity may influence our perception of racism surrounding us. When a strong racial identity is present, racism is viewed as an attack on one's personal identity.

In other words, if one feels strongly related to their own racial group, an attack towards their racial group is more likely to be perceived as an attack to themselves. Consistent with this rational, some studies have found that if someone has a fainter racial identity, they may not recognize the racism surrounding them as much as someone with a stronger one (Milner, 1983). The perception of the racism surrounding us is based on interactions we encounter, whether they are positive or negative. How someone processes negative racial interactions or insults aimed towards an individual or group and then internalizes it is coined as "perceived racism" or "perceived discrimination" (Chu-Lien Chao et al., 2014; Grossman & Porche, 2014).

Self-Esteem and Perceived Racism

Self-esteem is also a part of self-identity. Self-esteem is described in psychology as how one identifies his or her self both physically and emotionally, it also refers to how confident, knowledgeable, and the overall satisfaction one has with themself (Marcussen, 2006). The like or dislike someone has for themselves influences how they internalize the situations and people around them (Biro, Padgett, Striegel-Moore, Franko, & Bean, 2006). Lower self-esteem has been found to have a greater impact on this internalization than higher self-esteem tends to; it also tends to cause more negative interpretations than positive ones when reflecting on events (Ethier et al., 2006). These negative interpretations can cause significant distress in a person, especially since self-esteem is one of our essential forms of identity, as discussed earlier.

Self-esteem has been linked to perceived racism throughout various studies. Many studies have found that perceived racism is a predictor for self-esteem (Hipolito-Delgado, 2016; Kaduvettoor-Davidson & Inman, 2013; Miliora, 2000; Schmitt,

Branscombe, Postmes, & Garcia, 2014; Tawa, Suyemoto, & Roemer, 2012; Yip, 2015).

This finding is consistent no matter which racial group is studied. African Americans

have been most often examined in research studies, but there have also been significant

findings on the effect of perceived racism on self-esteem in Asian Americans, South

Asian Americans, and Latino/Hispanic Americans (Alvarez & Juang, 2010; Chu-Lien

Chao et al., 2014; Hipolito-Delgado, 2016; Kaduvettoor-Davidson & Inman, 2013; Tawa

et al., 2012). All the studies lead to the conclusion that perceived racism diminishes self-

esteem.

In addition, some studies also found that self-esteem is not only an outcome

variable of perceived racism, but also a mediator leading to various work and life

outcomes (Fischer & Shaw, 1999; Alvarez et al., 2016; Chu-Lien Chao et al., 2014).

Other studies have found that the interaction between perceived racism and self-esteem

significantly related to psychological distress (Garriott, Love, & Tyler, 2008; Graham,

West, Martinez, & Roemer, 2016; Hipolito-Delgado, 2016; Marcussen, 2006; Rahimi &

Fisher, 2002; Wakefield & Hudley, 2007). Due to the interaction found within multiple

experiments, it is possible that self-esteem may serve as a moderator, buffering the

negative effect of perceived racism on some outcome variables, such as stress. Due to

the conflicting findings within multiple studies of whether self-esteem is a moderator,

mediator, or predictor of these outcome variables, all three effects will be examined

within this study to determine the most significant effect self-esteem has.

Potential Consequences of Perceived Racism

Studies have found that people of color are reporting lower levels of academic

achievement no matter their education-level in comparison to their White counterparts

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(Barker, Howard, Galambos, & Wrosch, 2016; Denbo & Beaulieu, 2002; Kerr-Berry, 2016; Willison, 2016). Students of color do not have the same potential to feel included in their curriculum as their White peers because it is more difficult to self-identify with a reference group that is not theirs. When the majority of curriculum is taught from a Eurocentric standpoint and the perspective of colonizers, there will be people who cannot identify with that. As discussed earlier, this Eurocentric curriculum would not be able to meet two of the three concepts of a student's identity (self-concept and reference group) because this curriculum is not inclusive of other racial identities (Cokley, 2014; Denbo & Beaulieu, 2002). A student with a racial identity that is not Eurocentric will have a harder time relating to the material and will lose attraction in the topic, allowing them to focus interests elsewhere to fulfill their need of self-concept and reference group (Denbo & Beaulieu, 2002). When students cannot self-identify with course materials, they can also become discouraged by their coursework, which can hinder their self-esteem as well. As humans, we try to improve our self-esteem naturally by focusing our attention on things we prosper in, which is what students will do if they feel discouraged in a particular course or area (Spigner, 1993). In sum, it is highly likely that racial identity, perceived racism and self-esteem will influence academic achievement.

Besides academic achievement, internalizing racism has many negative effects on a person. As mentioned before, the effects perceived racism has on psychological health is a huge problem. Studies are finding that people of color are experiencing alarming rates of depressive symptom, anxiety, anger, and stress (Alvarez, Liang, Molenaar, & Nguyen, 2016; Brondolo, Ng, Pierre, & Lane, 2016; Gfellner, 2016; Huynh, 2012; McClain et al., 2016; Yip, 2015). For instance, after conducting a longitudinal study

where 405 students were observed, the researchers found that many of the participants experienced a significant amount of perceived racism and that was found to impair their psychological well-being and sleep cycles overall (Yip, 2015). Another study, conducted by Huynh, found that when people experience more racism around them, not only does their psychological well-being become impaired, but also their physical health (Huynh, 2012). Racism is being found to impair people overall – their stress levels are rising, their somatic health becomes impaired, and the psychological health become conflicted (Huynh, 2012; McClain et al., 2016; Reynolds, Sneva, & Beehler, 2010; Smith, Mustaffa, Jones, Curry, & Allen, 2016).

Limitations of Previous Studies

Although there is an excessive amount of literature on perceived racism, its measurement suffers from several confounds. First, some scales only measure specific racial groups such as: African Americans, Latino/Hispanic Americans, and Asian Americans – and within all three of these racial groups, they have found approximately the same results. However, because these studies only used one racial group in comparison to the White participants, there are several complications that can occur. A major factor in using only one group is that the scales used to measure the participants were extremely catered to the group or culture, making it difficult to replicate using different groups than the original study. For example, in Hipolito-Delgado's research, the study only examined Latino/a students to measure their level of perceived racism around them (Hipolito-Delgado, 2016). This also occurs in Tawa, Suyemoto, & Roemer's study that investigates Asian American students' level of perceived racism and the rate of stress Asian Americans feel by this negative experience (Tawa et al., 2012).

The research that has been the most influential for the current study has also been difficult to generalize due to the accommodations of method materials for an African American population. Chu-Lien Chao, Longo, Wang, Dasgupta, & Fear utilized the Schedule of Racist Events, an 18-item scale measuring the frequencies of experiences of racist events during the past year African Americans have had (Chu-Lien Chao et al., 2014). Although we may not ever be able to effectively generalize the experiences from one racial group to the other, it is believed that almost all people of color experience some form of oppression in comparison to their White counterparts, and creating a scale to measure this is a challenge (Perry, Vance, & Helms, 2009). There have been advances to create studies and scales to measure perceived racism as a whole across many populations.

The literature also lacks studies investigating different forms of perceived racism and the different effects on outcomes. For example, the investigation of microaggressions in comparison to blatantly racist events on psychological factors is lacking in the literature. A microaggression is considered a brief, underlying discriminatory remark or action made against someone else, which can make them feel as a second-class citizen (Wing Sue, Capodilupo, Torino, Bucceri, Holder, Nadal, & Esquilin, 2007). Studies that have incorporated microaggressions or blatant racism have not measured them simultaneously as perceived racism, but have found that participants are feeling psychological turmoil and somatic effects of these racist interactions as they would with blatant racism or stereotyping (Smith, Bishop Mustaffa, Jones, Curry, & Allen, 2016; Wing Sue et al., 2007; Torres & Taknint, 2015).

In addition, most studies do not incorporate or consider racial identity and separate it from perceived racism. Since racial identity has been found influential for perceived racism (Milner, 1983), it is important to consider it along with people's sociobiological racial group. The sociobiological racial group reflects how a person is categorized by the outside world, however, it is equally or even more important to consider how a person views themselves and their relationship with their racial group. Even within the same racial group, there have been different levels of perceived racism (Brondolo, Ng, Pierre, Lane, Alvarez, Liang, & Neville, 2016). Racial identity may contribute to the within group differences.

Finally, the role of self-esteem is not clear in previous studies. Some studies found that self-esteem is the direct consequence of perceived racism; other studies found that self-esteem interact with perceived racism and work together on health, psychological well-being and academic achievement. A comprehensive model on self-esteem and perceived racism is necessary to clarify the role of self-esteem.

Purpose of Study and Hypotheses

The purpose of this study is to re-examine the literature on perceived racism that are unclear or could not be replicated with a different population. This study aims to improve the literature by the following attempts.

(1) Use questionnaires applicable to multiple racial groups at once rather than singularly surveying each one at a time, and also include measures of microaggressions to this study. The previous studies often investigate within one ethnic or racial group at a time (i.e. Latino/Hispanic American, African American, or Asian American) and created their survey questions based on this specific group they wanted to measure, but did not

take into account the interaction between several groups or participants with multiple identities (i.e. biracial, multiracial, etc.). This study aimed to investigate students from a variety of racial groups and examine how they perceive racism around them by asking questions that any participant is able to answer.

(2) Include racial identity as a predictor for perceived racism. This approach reflects a more personalized perspective, so that individuals in the same sociobiological racial group are not viewed as the same but recognized by their own racial identity. By this way, the individual differences in perceived racism can be further understood.

(3) Test a comprehensive model that investigates the multiple possible roles of self-esteem in perceived racism. This study aimed to investigate whether self-esteem is a moderator or consequence for perceived racism, especially, what role self-esteem plays for each outcome including academic achievement, psychological distress and physical health.

(4) Consider multiple measures on perceived racism. Especially, microaggression is taken into account along with obvious discrimination. Multiple outcome measures were also considered, including the somatic and mental distress, and academic achievement. Moreover, we would like to measure academic achievement in a more intensive way than simply a self-reported grade point average, by utilizing scales that ask about their academic values and motivators.

Hypotheses

Based on previous studies, four hypotheses are developed and summarized in Figure 1.

H1. People who have a higher racial identity will perceive more racism around them, including obvious discrimination and microaggressions.

H2. Students with higher rates of perceived racism will have lower rates of academic achievement, more stress, and more somatic symptoms.

H3. The mediating role of self-esteem indicates that higher rates of perceived racism is associated with lower self-esteem (3a) and lower self-esteem is related to multiple negative outcomes (3b).

H4. Self-esteem has a moderating effect on perceived racism on multiple outcome measures. A higher level of self-esteem buffers the negative consequence of perceived racism.
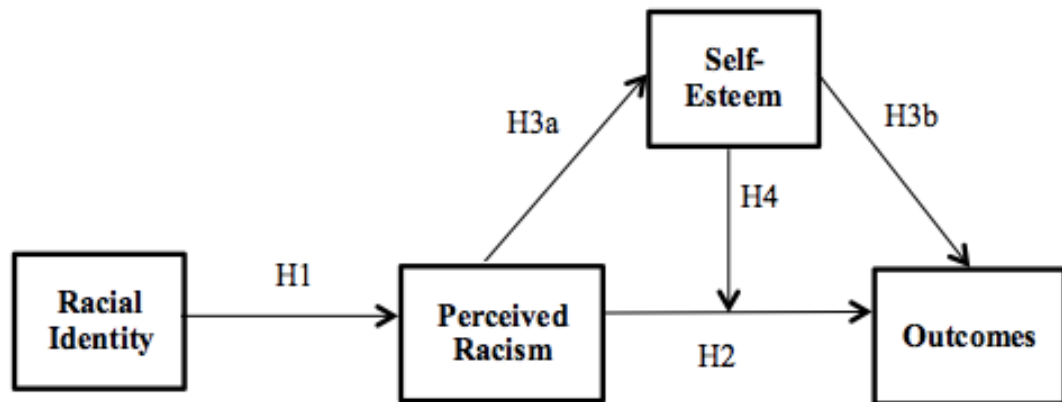
Figure 1. The hypotheses illustrated in the conceptual model of this study.

II. METHOD

Participants

There was a total of 329 undergraduate students who participated in this online survey, of which 304 were considered eligible to use for analysis (see analysis section). Participants were recruited from undergraduate upper-level psychology courses via email and announcements during class – introduction to psychology courses were excluded from recruitment due to the higher volume of freshmen students who have not completed more than one year of college in an effort to limit confounding variables. Students received extra credit for completing the study via Qualtrics, under discretion of the distributing professor. The distribution of participants approximately matched the Texas State University population – consisting of 257 females, 44 males, 2 gender non-conforming, and 1 transgender students of which 138 Caucasian/White participants, 110 Latino/Hispanic participants, 45 African American/Black participants, 13 Asian American participants, and 6 Native American/Alaskan Native participants. There were a total of 3 participants that chose not to disclose their racial identity and 11 chose not to disclose their gender identity. The classification of students consisted of 3 freshmen, 68 sophomores, 140 juniors, 74 seniors, and 19 "super seniors" (or students that have accumulated more than 140 credit hours), with a mean age of 21.50 years old and a mean grade point average of 3.11.

Measures

Racial identity was measured using the Ethnic Identity Scale, a 17-item survey that measures feelings towards participants' own ethnic group on a 4-point likert scale, ranging from "describes me a little (1)" to "describes me very well (4)" (Umaña-Taylor,

Yazedjian, Bámaca-Gómez, 2004). This scale asks participants questions like, "if I could choose, I would prefer to be of a different ethnicity" in order to measure the feelings and satisfaction one has with their ethnicity and racial group.

Perceived racism was measured using the Perceived Ethnic Discrimination Questionnaire – Community Version, a 34-item scale that measures the frequency participants have experienced racism or discrimination based on a 5-point likert scale that ranges from "never happened" (0) to "happened very often" (5) (Brondolo, Kelly, Coakley, Grodon, Thompson, Levy, Cassells, Tobin, Sweeney, & Contrada, 2005). This questionnaire asks items such as, "have you been treated unfairly by teachers, principals, or other staff at school" in an effort to measure the rate of racism perceived within many different aspects across all races. This questionnaire was chosen over the others because of its ability to measure across multiple races and the questions targeting specific instances (i.e. in school, in a restaurant, from friends, etc.). The Ethnic Microaggressions Scale will also be used to measure the microaggression form of perceived racism, which is a 12-item survey that asks participants to rate how often a microaggression has occurred and how they felt during that experience (Huynh, 2012). This scale was chosen to analyze the influence microaggressions have on perceived racism as well as the remaining outcome variables.

Self-Esteem was measured using the Rosenberg Self-Esteem Scale, a 10-item scale that measures how well a participant agrees with questions about their self-esteem on a 4-point likert scale (Rosenberg, 1965). This scale asks participants to rate how well they agree with statements such as, "I am able to do things as well as most other people" in an attempt to measure their satisfaction with themselves. This scale was chosen

because of its reliability and extended use since publication; we believe it measures self-esteem thoroughly without cluttering the survey.

Outcome Measures were measured using 7 different scales across three variables (academic achievement, somatic symptoms, and stress). Academic Achievement will be measured using the Academic Adjustment Scale, a 9-item scale that asks participants to rate how well statements about adjusting to a university lifestyle applies to them on a 5-point likert scale (Anderson, Guan, & Koc, 2016). This scale was chosen because it examines multiple perspectives of being a university student – the satisfaction of school to the student, and how well they are adjusting to their new environment. The Somatic Symptoms will be measured using the Somatic Symptom Scale – 8 (SSS-8), an 8-item scale that asks participants to rate how much they have been bothered by 8 different somatic symptoms (i.e. upset stomach, headaches, etc.) on a 4-point likert scale (Gierk, Kohlmann, Kroenke, Spangenberg, Zenger, Brähler, & Löwe, 2013). Stress will be measured using the College Student Stress Scale (Feldt, 2008). The College Student Stress Scale is an 11-item scale that asks participants to rate how often they feel the same as the provided statement (i.e. "felt anxious or distressed about academic matters") on a 5-point likert scale (Feldt, 2008). This scale was chosen because it assesses different aspects of stress college students feel by catering the questions to experiences college students feel during their time away at school.

Design and Procedure

The present study was a correlational design measuring multiple variables with an approximately 45-minute, 130-question, online survey. The first screen participants saw was to record their consent – if consent was not given they were directed to a "thank you"

page offering an alternative assignment for extra credit. If the participants opted to

consent to the survey, demographics were collected in the first portion of the survey

including: age, gender, race, grade point average, major/minor, classification status,

country of origin, and any other demographics we deemed fit for this study. The survey

then moved into the several different portions with each variable being on separate pages

of the web link. The participants took the survey one at a time, independently, without

the ability to change answers on previous pages once they have moved past them.

III. RESULTS

Data were cleaned to exclude any participants who do not meet the criteria. Participants excluded include any graduate level students, participants who do not complete at least 25% of the survey, or datum submitted by anyone opting out of participating – the survey initially had 329 respondents of which 14 were excluded for declining consent and 11 participants were excluded from analysis due to more than 75% of their survey being blank, resulting in an adjusted total of 304 participants for analysis.

Data were screened for any missing data and outliers – a pairwise method was used to handle missing data, and outliers were examined based on a boxplot. Statistical assumptions including normality and linearity were checked using a histogram and scatterplot. No extreme outliers were found, and no violation of assumptions was detected.

Correlation Analysis to Test H1 and H2

Pearson correlations were conducted to examine the zero-order correlation among all variables of interest including racial identity, discrimination, microaggression, self-esteem, stress, somatic symptoms, and academic achievement (see Table 1).

The two measures of perceived racism – discrimination and microaggression significantly correlated with each other, *r=.498, p<.01*. As expected, both significantly correlated with all outcome measures. However, the proposed antecedent racial identity was only correlated with microaggression, *r=.141, p<.05*, but not discrimination, *r=.052, p>.05*. Therefore, H1 was partially supported and H2 was fully supported.

Table 1. Correlation Among Variables

	Racial Identity	Discrimination	Microaggression	Self-Esteem	Stress	Somatic Symptoms
Racial Identity	1					
Discrimination	.052	1				
Microaggression	.141*	.498**	1			
Self Esteem	.272**	-.168**	-.088	1		
Stress	-.176**	.188**	.190**	-.546**	1	
Somatic Symptoms	-.164**	.200**	.198**	-.204**	.495**	1
Academic Achievement	.259**	-.168**	-.138*	.530**	-.337**	-.278**

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

Mediation Analysis to Test H3

To test H3, a mediation analysis was performed using Preacher and Hayes' (2008) SPSS mediation bootstrapping procedure. Results suggested that self-esteem significantly mediated the effect of discrimination on stress, *beta=0.089, SE=0.033, Z=2.685, p<.01, 95%CI=[0.032,0.167]*; on somatic symptoms, *beta=0.030, SE=0.015, Z=2.020, p=.043, 95%CI=[0.007,0.074]*; and on academic achievement, *beta=-0.087, SE=0.032, Z=-2.677, p=.007, 95%CI=[-0.169,-0.025]*. Since the microaggression variable was not significantly correlated with self-esteem, it was not deemed necessary to

test the mediating effect of self-esteem between microaggression and the outcome variables. H3 was partially supported.

Taking H1 and H2 together, we also tested the mediating effect of microaggression between racial identity and outcomes. Results suggested that the indirect effect of racial identity via microaggression significantly influenced stress, *beta=0.031, SE=0.016, Z=1.974, p=.048, 95%CI=[0.036,0.094]*; and significant on somatic symptoms, *beta=0.032, SE=0.016, Z=1.989, p=.047, 95%CI=[0.003,0.084]*. The mediating effect of microaggression between racial identity and academic achievement was marginally significant as suggested by the Sobel test, and just significant as suggested by bootstrapping, *beta=-0.025, SE=0.014, Z=-1.851, p=.064, 95%CI=[-0.067,-0.005]*. Therefore, racial identity enhanced microaggression, and consequently increased stress, associated with more somatic symptoms and less academic achievement overall.

In addition, since racial identity was significantly correlated with self-esteem, *r=.272, p<.01*, and self-esteem was significantly related to outcome measures, we also tested the mediating effect of self-esteem between racial identity and the outcome variables. Results suggested that the indirect effect of racial identity via self-esteem was significant on stress, *beta=-0.147, SE=0.035, Z=-4.207, p<.001, 95%CI=[-0.226,-0.075]*, and also significant on somatic symptoms, *beta=-0.047, SE=0.020, Z=-2.390, p=.017, 95%CI=[-0.097,-0.0167]*; as well as significant on academic achievement, *beta=0.135, SE=0.033, Z=4.142, p<.001, 95%CI=[0.068,0.202]*. Overall, a higher racial identity enhanced self-esteem, as well as reduced stress, associated with fewer somatic symptoms, and better academic achievement.

Therefore, the effect of racial identity is two folds – it has negative influences on individuals by linking to more perceived microaggressions when experienced, but it also has a positive impact by linking to a higher self-esteem. When comparing the indirect effect via microaggressions and its indirect effect via self-esteem, the findings reveal that racial identity is mainly a protective factor rather than a risk factor to students.

Moderation Analysis to Test H4

To test H4, a regression analysis was performed to examine the interaction effect of self-esteem and perceived racism on the outcome variables. Results only supported the interaction effect between self-esteem and microaggression on academic achievement, *beta=-0.173, t=-3.326, p<.001*. Therefore, H4 was only partially supported.

To interpret the interaction effect, when the microaggression variable is considered as the moderator, it reduces the positive effect of self-esteem on academic achievement (the effect of self-esteem is positive, *beta=0.513*, and the interaction effect is negative, *beta=-0.173*, they are in opposite directions). When self-esteem is considered as the moderator, self-esteem actually worsened the negative influence of microaggression on academic achievement (the effect of microaggression is negative, *beta=-0.127*, and the interaction effect is also negative, *beta=-0.173*, they are in the same direction).

This notable finding indicates that self-esteem is similar to racial identity in the sense that the effect of self-esteem is also two folds – self-esteem promoted academic achievement, but it also exacerbated the negative influence of microaggression. This finding could indicate that it makes individuals more susceptible when perceiving

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microaggressions when direct at them. If we compare the two effects of self-esteem, the positive influence is remarkably larger, *0.513* vs. *0.173*, therefore, self-esteem should be considered more of a protective factor than a risk factor as well.

Path Analysis to Test the Overall Models

A path analysis was conducted to evaluate the overall model based on the above analyses. We established separate models for each outcome measures. SEM software Onyx (von Oertzen, Brandmaier & Tsang, 2015) was used to perform the path analysis. The path models with standard coefficients are shown in Figure 2, 3, and 4.

The stress model fit the data very well, *CFI=1.0 > 0.9, RMSE=.00 <.08* (see Figure 2). All path coefficients were significant at *p<.05*. This model explained 32% of the variance in stress.

Figure 2. The path model on stress.

The health model also fit the data very well, *CFI=0.99 > 0.9, RMSE=.02 <.08* (see Figure 3). All coefficients were significant, *p<.05*. This model explained 8% of variance in somatic symptoms.

Figure 3. The path model on somatic symptoms.

The academic achievement model fit the data as well, *CFI=0.97 > 0.9,*

RMSE=.04 <.08 (see Figure 4). All path coefficients were significant at *p<.05.* This

model explained 32% of the variance in academic achievement.
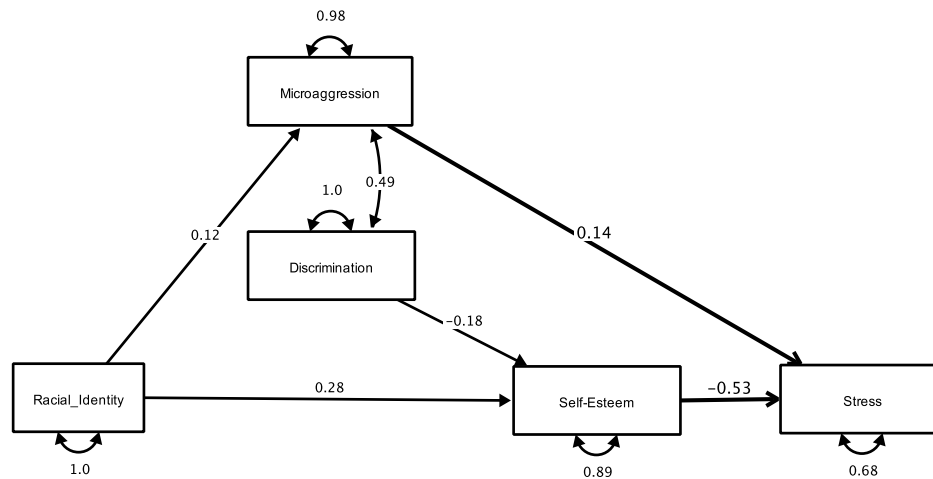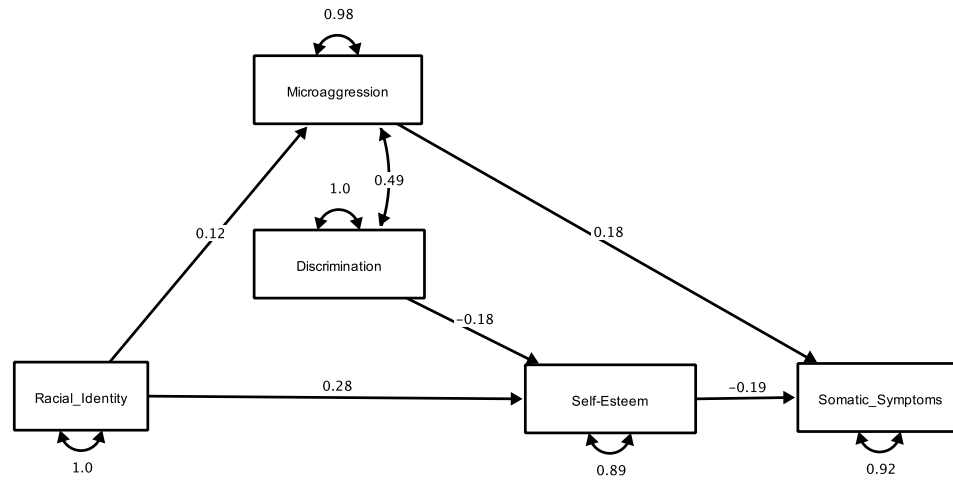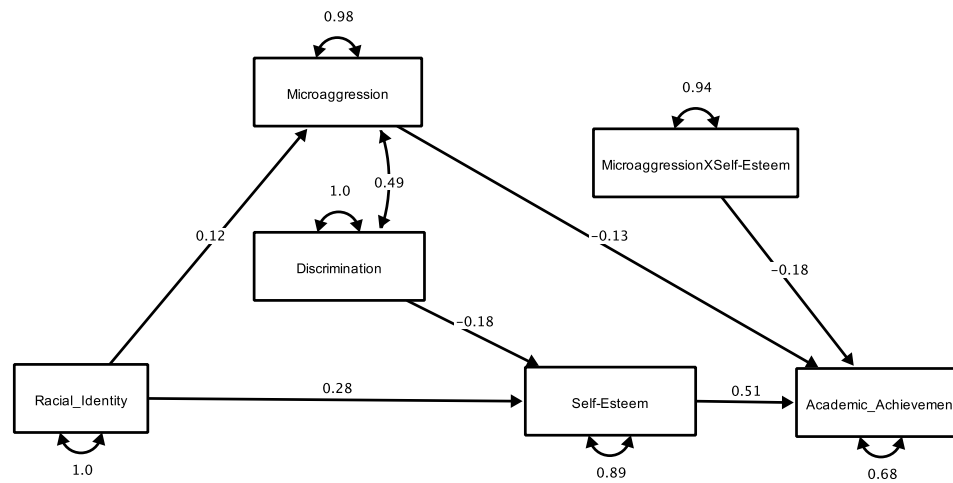

Figure 4. The path model on academic achievement.

IV. DISCUSSION

Implications

Overall, this study found significant results indicating that perceived racism has a significant effect on academic achievement as well as stress levels and somatic symptoms. Perceived discrimination had a direct negative effect on self-esteem overall, indicating that as students perceived more discrimination around them, their self-esteem decreased. Perceived discrimination has also been found to have an indirect negative effect on stress, somatic symptoms, and academic achievement. These findings indicate that as perceived discrimination levels increase, students' stress levels increase while their health and academic achievement decrease. These findings encompass the detrimental effects perceiving racism have on college students. Microaggressions were also found to have the same effects on the aforementioned variables throughout the path analyses. Notably, the effect of microaggression on the outcome measures was direct without going through the mediating role of self-esteem. The effect size of the direct effect is also remarkably larger than the indirect effect of discrimination. These findings highlighted the detrimental effects of microaggression as a new form of racism.

Racial identity was found to only be related to perceived microaggression, not perceived discrimination. This could be because blatant discrimination or racism can typically be seen by multiple races as discrimination, but microaggressions tend to be small bashes at a specific race that may not be perceived as such when said or done to outside races (Wing Sue et al., 2007). For example, this could be like asking someone if their hair is authentic or purchased – this can be perceived as a smaller form of racism, or a microaggression, to one race over another. The impact of racial identity is both positive

and negative as seen by our analyses. Racial identity was found to have a positive direct effect on self-esteem, which indicates that students who strongly identify with their racial group tend to have a higher self-esteem. However, racial identity was also found related with perceiving more microaggression more strongly. As opposed to our initial expectation, the positive effect of racial identity is much larger than its negative effect, which implies that a person who bonds stronger with their racial identity adapts better than those who do not.

The role of self-esteem as a mediator and a moderator were both supported. As expected, self-esteem plays an important mediating role between perceived racism and multiple outcomes. In addition, the interaction between self-esteem and microaggressions were found to have a direct effect on academic achievement. This finding indicates that when a student has a high self-esteem and encounters a microaggression around them, it actually hinders their academic career more than if their self-esteem were already low. An example of this type of microaggression would be criticizing someone for choosing a specific major or course based on his or her racial group. A person of high self-esteem may notice this type of microaggression whereas a person with low self-esteem may not be as receptive to it. This finding indicates that self-esteem as a positive psychological concept still has its dark side, even if it is a very small portion. It should be noted that given this small portion of negative influence, self-esteem is still the strongest protective predictor to all outcome measures within this study.

Limitations

A majority of the limitations to this study were found within the methods section. The microaggressions scale used asks the same questions twice, once asking the

frequency of the experience and the second asking them how this experience made them feel. The microaggressions scale may have been confusing for students as more than 70% of participants did not answer the second portion of it. Most students answered the frequency, but not answer the emotional aspect of the scale. This second portion was excluded from analysis to eliminate any confounds associated with missing data. This study also did not include a mental health evaluation within the questionnaire, which could be useful to measure alongside somatic symptoms. The sample of students were only from psychology courses at Texas State University which could bias the data due to perceived racism and microaggressions being topics of discussion within psychology. These students may have been able to identify the hypotheses within this study and bias their answer to exacerbate or downplay their experiences. Future studies should incorporate multiple departments and/or universities within the area to test whether the results found are consistent throughout multiple areas of research. Future studies could also measure this outside of an undergraduate population by extending to high schools and graduate level students. Another limitation to this study was the uneven distribution of participants within each racial group, limiting the ability to examine across races. We examined by race to test the effects and found that both White and Latino/Hispanic students perceived less racism overall in comparison to the other groups of students. However, this finding could be because Texas State University is a reputable university having the designation of being a Hispanic-Serving Institution, meaning more than 25% of the enrolled population consists of Latino/Hispanic students, which could decrease the effects of perceived racism for this group. The other groups of students (African American, Asian American, and Native American) in this study were too small to have a

reliable power in comparison to our White and Latino/Hispanic samples. Gender was noted but also was not compared within this study, but could be used within future studies to measure the differences between males, females, and gender non-conforming or transgendered students both as a whole and within each racial identity. This variable was not compared within this study because it was not supported by the literature, further research should be conducted to measure these differences.

Conclusion

Racism has left a negative residue on multiple aspects of many people lives. The effects of perceived racism can be seen through the amount of academic achievement, overall health, and the level of stress people experience after withstanding both blatant racism and micro-aggressive racism (Huynh, 2012). This study found that when students perceive more racism around them, they are more likely to have a lower self-esteem, lower academic achievement, and higher levels of stress and poor health, which matches the previous body of literature (Allen et al., 2002; Chu-Lien Chao et al., 2014). We also found that racism on a microscopic level, or a microaggression, is becoming more harmful than outright and blatant racism to individuals. Measures should be taken to educate people and reduce microaggressions, especially within the school and work place. In addition, this study highlighted the protective role of racial identity and self-esteem. In an effort to help students become healthier and succeed, there needs to be a decrease in hateful rhetoric and racism surrounding them. Training programs for enhancing racial identity and promoting self-esteem may also help students counteract the negative influence of racism, which future studies should examine. There have been

improvements throughout time, but there are still strides to be made in order to help

students succeed overall.

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