

DEVELOPMENT AND VALIDATION OF THE PERPETRATION OF RACIAL
MICROAGGRESSIONS SCALE

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Master of Arts

In

Psychology: Social, Personality, and Affective Sciences

by

Deja Nicole Simon

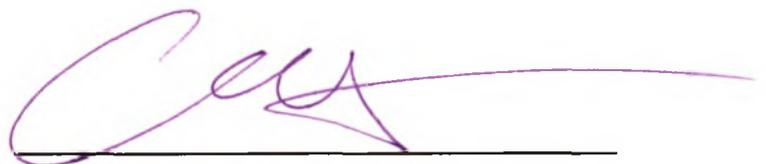
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CERTIFICATION OF APPROVAL

I certify that I have read Development and Validation of the Perpetration of Racial Microaggressions Scale by Deja Nicole Simon, and that in my opinion this work meets the criteria for approving a thesis submitted in partial fulfillment of the requirement for the degree Master of Arts in Psychology: Social, Personality, and Affective Sciences at San Francisco State University.



Charlotte Tate, Ph.D.
Associate Professor



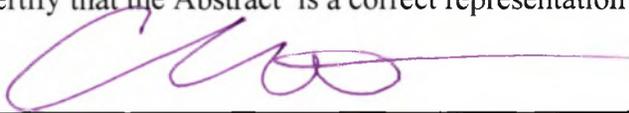
Zena Mello, Ph.D.
Assistant Professor

DEVELOPMENT AND VALIDATION OF THE PERPETRATION OF RACIAL MICROAGGRESSIONS SCALE

Deja Nicole Simon
San Francisco, California
2019

Racial microaggressions are subtle insults delivered from an actor to a target due to the target's racial identity. It has been shown that racial microaggressions are damaging to the targets who experience them, and much research has focused on their experiences; however, little attention has been paid to those who commit racial microaggressions. Research about the commission of racial microaggressions is just beginning, but lacks a traditional, generalized self-report measure. Additionally, it is unknown how racial microaggression perpetration relates to other established forms or components of racism. To address these gaps in the literature I conducted 2 studies. Study 1 ($n = 257$) developed the Perpetration of Racial Microaggressions Scale (PRMS), a self-report explicit measurement designed to assess respondents' general likelihood of engaging in microaggressive behavior. Results of Study 1 showed that the PRMS was comprised of a single factor and possessed good internal consistency. Study 2 ($n = 438$) replicated the factor structure and internal consistency of the PRMS and correlated this new measure with a series of other explicit measures to establish the convergent, divergent, and concurrent validity of the scale. Results of Study 2 showed that, rather than being a new phenomenon, racial microaggression commission is simply a subtle display of well-established forms of racism.

I certify that the Abstract is a correct representation of the content of this thesis.



Chair, Thesis Committee

07/24/19

Date

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Introduction

One of the earliest academic mentions of *microaggressions* appeared in a work by Pierce (1970), in which he described such aggressions as conscious or unconscious “offensive mechanisms which assure that the person in the inferior status is ignored, tyrannized, terrorized, and minimized” (p. 267). Pierce (1970) asserted that microaggressions are engrained in American culture, and that their accumulation is detrimental to the physical and psychological well-being of Black individuals. Racial microaggressions were mentioned in future works following Pierce’s publication (Bell, 1994; Sanders Thompson, 2002; Solórzano, Ceja, & Yosso, 2000), however the concept gained the prominence it possesses today, largely due to the work of Sue and colleagues (e.g., Sue et al., 2007).

Sue et al. (2007) characterized racial microaggressions as subtle, common, and often automatic insults from an actor to a target due to the target’s racial identity. In their detailed description of the ways in which microaggressions can manifest, they discussed (a) the experience of the target when victimized by a microaggression, and (b) the importance of microaggression awareness for clinicians and therapists (Sue et al., 2007). This publication set the precedent for subsequent academic research, prompting an influx of articles – particularly within the clinical psychology literature – that assessed targets’ experiences of racial microaggressions (see Wong, Derthick, David, Saw, & Okazaki, 2014, for a review). Various scales were developed to measure aspects of targets’ microaggressive encounters as well, such as frequency (Nadal, 2011) and types

experienced (Torres-Harding, Andrade, & Romero Diaz, 2012). Despite the abundance of research about microaggressions from the target's perspective, studies pertaining to the actor, the individual who perpetrates the microaggressions, have been less common.

The Cultural Cognitions and Actions Survey (CCAS; Kanter et al., 2017) was the first scale to focus on individuals who engage in microaggressive activity or commit microaggressions. In the CCAS, respondents are presented with five scenarios and asked how likely they would be to say or think a series of microaggressions within those particular situations (Kanter et al., 2017). For example, one scenario is attending a diversity training workshop. The respondent is presented with this scenario and asked to indicate their likelihood of saying or thinking "Racism doesn't really affect most people anymore" within that context (Kanter et al., 2017). The CCAS has been an important addition to our cumulative understanding of racial microaggressions, but it does not appear that the authors conducted a factor analysis and the validity of the measure is unknown. Additionally, the incorporation of vignettes into a scale – as the CCAS was designed – does not align with typical survey methodology.

In the social psychology literature, numerous scales over the years have explored different attitudinal components of racial prejudice. The components of racism (and their respective scales) that have been identified include: modern (Modern Racism Scale [MRS]; McConahay, 1986); egalitarian (Attitudes Toward Blacks [ATB] scale; Brigham, 1993); color-blind (Color Blind Racial Attitudes Scale [CoBRAS]; Neville, Lilly, Duran, Lee, & Browne, 2000); and symbolic (Symbolic Racism 2000 [SR2K] scale; Henry &

Sears, 2002). These varying attitudes took form after the civil rights era, during a time when extreme racist beliefs were no longer socially acceptable (Sue et al., 2007). Some attitudes are more overt in nature (e.g., modern) than others (e.g., color-blind), and they differ slightly in their underlying thought processes (e.g., symbolically believing that African Americans challenge traditional American values, compared to the belief that all individuals – regardless of ethnicity – are exposed to the same experiences and opportunities in life). However, the literature has shown that the intercorrelations between these various forms of racial prejudice range from $r = |.60|$ to $|.80|$ (Brigham, 1993; Henry & Sears, 2002; McConahay, 1986; Neville et al., 2000). Thus, it is clear that the racial prejudice measures show good convergent validity, yet no one has attempted to investigate the distinction between constructs; rather, researchers have opted to focus exclusively on their own perspectives.

When considering individual differences in likelihood of committing racial microaggressions, it seems appropriate to understand the ways in which perpetration of these microaggressions is or is not related to the existing racial prejudice literature. One possibility is that racial microaggressions are a completely new phenomena, and their perpetration is relatively uncorrelated with the various components of racial prejudice mentioned above. The second possibility is that racial microaggression commission is an iteration of subtly expressed, traditional racism, in which case it would correlate highly with established components of racial prejudice.

To empirically test the association between racial microaggression perpetration and the existing components of racism, I needed to perform 2 major steps: (a) create and validate a scale that measured commission of racial microaggressions, and (b) correlate this validated assessment with other existing racism scales. For the first step, my desire was to build upon the CCAS (Kanter et al., 2017) by developing a scale that asked respondents about their *general likelihood* of microaggression commission, which is more consistent with existing measures of racism. If my creation of this scale was successful, I could then provide an answer to the larger question: Is racial microaggression perpetration simply another expression of traditional racial prejudice, correlated with other racism scales between $r = .60$ to $.80$ (as the scales do with one another)? Or, is it a somewhat more unique phenomenon, correlated with racism scales to a lesser magnitude? It has been said that racial microaggressions are more common and pervasive; they are subtle, fleeting, and usually delivered unconsciously, which is why they have so often been overlooked (Solórzano et al., 2000; Sue et al., 2007). Answering this question quantitatively was my primary goal for this research.

Overview of the Present Studies

To accomplish the goals of the thesis, I conducted two studies. I first selected 10 items from the CCAS (Kanter et al., 2017) and generalized them by removing their scenario contexts. I then used exploratory factor analysis (EFA) in the first study to discover the scale's psychometric properties, and investigated its concurrent validity by

examining gender differences in average responses. Specifics of these processes can be found in the Study 1 Method.

After I established the factor structure of the measure, I conducted a second study that (a) tested whether the factor structure found in Study 1 would replicate, and (b) assessed the convergent, divergent, and concurrent validities of the scale. To check its convergent validity, I correlated my scale with several other anti-Black racism measures; in doing so, I was also able to answer the larger question regarding the nature of racial microaggression perpetration (i.e., whether it is another manifestation of traditional racial prejudice or a unique [non-traditional] construct). To assess its divergent validity, I correlated the scale with measures comparable to those used in other racism scale validation studies. Detailed descriptions of the measures used to establish convergent and divergent validities have been presented in the Study 2 Method. Concurrent validity was also assessed by again comparing gender differences in average responses on the scale.

Most anti-Black racism measures have only analyzed the data of European Americans, so to stay consistent with the literature I did the same for both studies. It is also important to note that I defined racial microaggression perpetration as a reflection of psychological, semi-private attitudes. This was consistent with Pierce's (1970) conceptualization of microaggressions, as well as with the other existing definitions today. Further, this allowed for the logical comparison to previously established racial prejudice measures, which classified prejudice as psychological and semi-private.

Relationships of Interest

Since the perpetration of racial microaggressions has never been studied in this manner, there are many potential relationships that the field is unaware of. While the correlations conducted in Study 2 were utilized to display convergent and divergent validities, they also served as insight into several relationships of interest (see Tate, 2011; Chessin, Lazo, Strait, & Tate, in press).

ROI1. Forms of racism and microaggressions. It is currently unknown how racial microaggression perpetration is or is not related to the various forms of racial prejudice (see Introduction). To assess these relationships, I simply tracked the correlations of my microaggression perpetration scale with the racism measures included in Study 2. If my scale measured a unique construct, there would be a pattern of low correlations (approximate r s between $-.30$ to $-.00$). Alternatively, if racial microaggression perpetration was not unique, high correlation coefficients would reflect convergent validity (approximate r s between $.60$ to $.80$).

ROI2. Personality traits, satisfaction with life, and microaggressions. While these constructs have been correlated with other racial prejudice measures to assess divergent validity, their relation to racial microaggression perpetration has yet to be explored. Thus, I tracked the correlations between my scale and the measures of these constructs in Study 2. If correlation coefficients were low, it would provide support for my scale's divergent validity.

ROI3. White ethnic/racial identity and microaggressions. Also of interest was the relationship between racial microaggression perpetration and the White perpetrator's

sense of ethnic/racial identity. Perhaps White individuals' microaggressive inclinations vary depending on the stage of racial identity development they have achieved (cf. Helms & Carter, 1993). I assessed this by tracking the correlations of my microaggressions scale with measures of general ethnic identity and White racial identity in Study 2.

Study 1: Factor Structure

The purpose of Study 1 was to identify the factor structure of the newly developed, 10-item PRMS. I had no predictions regarding the total number of factors that might be contained within the full scale. Nonetheless, previous studies have found that men responded more extremely than women on some measures of explicit racial prejudice (e.g., Neville et al., 2000, Table 2). This is consistent across other forms of prejudice as well (viz., sexual orientation prejudice and gender prejudice), and effect sizes of the response differences have ranged from $d = .30$ to $.75$ (Ghafur & Tate, 2019). It was expected, then, that a difference between men's and women's responses could be demonstrated on the PRMS as a potential measure of concurrent validity. This possibility was examined in Study 1.

Study 1 Method

Participants

I collected data through Amazon Mechanical Turk (MTurk). Respondents were required to reside in the United States, and all were compensated with \$0.25 for their time. To ensure that participant data were complete and came from unique individuals, I performed listwise deletion and excluded duplicate IP addresses. Of these participants (N

= 352), 73.3% ($n = 258$) self-identified as European American/White, 7.1% ($n = 25$) as African American/Black, 6% ($n = 21$) as Asian American/Asian, 10.2% ($n = 36$) as Hispanic/Latina/Latino, 7.7% ($n = 27$) as Native American, and 1.1% ($n = 4$) as Pacific Islander. Participants were allowed to select more than one ethnicity option, so percentages do not add to 100%.

Analyzed Sample. Given that the extant literature pertaining to racism measurement has focused on the responses of White individuals, I analyzed White participants' data only. The data of 257 White participants ($M_{age} = 35.73$, $SD_{age} = 11.90$; 42.8% [$n = 110$] women, 57.2% [$n = 147$] men) were assessed. These participants had a binary gender identity as either cisgender or transgender men and women.

Measures

The Two-Question Method of Assessing Gender Identity (2QAGI). The 2QAGI (Tate et al., 2013) was created so that participant gender identity could be more accurately assessed. The first question reads, "What is your current gender identity?" Participants could then select one of the following response options: *woman*, *man*, *trans woman*, *trans man*, *genderqueer/nonbinary*, or *intersex*. The second question reads, "What gender were you assigned at birth?" Participants could then select *female*, *male*, or *intersex*. Cisgender women and men would respond to both questions in the same way, while transgender men and women would respond to the two questions differently. For this study, I analyzed the data of participants who indicated a binary gender identity

(i.e., cisgender and transgender men and women); accordingly, genderqueer/nonbinary or intersex individuals were not included in the analyses below.

The Perpetration of Racial Microaggressions Scale (PRMS). The PRMS (developed by the author) was designed to assess an individual's likelihood of racial microaggression commission. Items were extracted from the Cultural Cognitions and Actions Survey (CCAS; Kanter et al., 2017), a 56-item measure that instructs respondents to rate their likelihood of saying or thinking a series of racial microaggressions within the context of five specific scenarios. The response scale for the CCAS progresses from *I wouldn't think it at all* (1) to *I would think it and probably would say/do it* (5).

To develop the PRMS, I selected 10 items from the CCAS that demonstrated the highest means and response variability (as listed standard deviations; see Appendix A for these items, as well as their original means and standard deviations). From first principles of mathematics, more variability equates to greater opportunity to capture variance and covariance, which is why I selected items in this manner. I had the opportunity to make my own scale, but I chose to generalize items from the CCAS instead for the sake of cumulative science. By using an existing scale but generalizing it, comparisons could be made between racially microaggressive inclinations in general (my new scale) as well as within specific scenarios (the existing CCAS).

After I selected the 10 items, I framed them as general, rather than scenario-specific, statements (see Appendix B). The PRMS instructions read, "When interacting with someone of a different racial identity, how likely are you to say or think the

following?” Contrary to the CCAS, participants then responded on the PRMS using a 5-point Likert scale ranging from *very unlikely* (1) to *very likely* (5). Example items include: “All lives matter, not just Black lives” and “I don’t think of Black people as Black”. The scale’s psychometric properties can be found in the Study 1 Results below.

Procedure

After providing informed consent, participants answered initial demographic questions pertaining to their age, gender identity, sexual orientation, and ethnicity. After completing the PRMS, respondents answered follow-up demographic questions about their current state of residence and their highest level of completed education.

Exploratory Data Analysis, Assumption Checking, and Stopping Rule

Data Screening. To ensure that only unique, completed cases were analyzed, I first performed listwise deletion and screened for duplicate IP addresses.

Assumption Checking. After data screening, I ran boxplots by item to check the exploratory factor analysis (EFA) assumption of no item-level outliers. None were identified, which permitted my use of EFA on the raw responses to assess the PRMS’ factor structure.

Stopping Rule. The number of completed cases necessary to achieve variance stabilization is 100, which I used as the stopping rule for Study 1. I stopped collecting data once I had 100 completed cases each of White men and women.

Study 1 Results

Exploratory Factor Analysis

To determine the factor structure of the PRMS I conducted an exploratory factor analysis (EFA). Before doing so, I ran 3 tests to ensure that performing an EFA was warranted. The KMO, a test of sampling adequacy, demonstrated that EFA would be appropriate, $KMO_{\text{overall}} = .92$ (which exceeds the .60 minimum). I also ran the Bartlett's test, which checks for perfect orthogonality of the data structure. This test suggested that the covariance matrix of the PRMS was acceptable for EFA, $\chi^2(45) = 1484.01, p < .001$. Lastly, I estimated the determinant for the PRMS items to test for singularity. I received a value of 0.00276, meaning that singularity (i.e., determinant = 0) was absent and EFA would be permissible.

Proceeding on to the analysis, I started by calculating eigenvalues for all 10 dimensions of the PRMS, which is the default in the **psych** package (Revelle, 2018) in the **R** statistical environment (R Core Team, 2018). Based on Kaiser's jiffy, only one eigenvalue surpassed a value of 1.00 (suggesting the extraction of one factor). I also produced a scree plot of the eigenvalues and, using Catell's rockpile criterion, concluded that one factor should be extracted for further analysis.

I ran the one-factor solution using principal axis factoring (see Table 1 for factor loadings, means, and standard deviations for each item). I implemented both varimax and oblimin rotations, yet results did not change by rotation type. This solution accounted for 52% of the cumulative variance in responses. Additionally, internal consistency of the 10 items indicated excellent reliability, Cronbach's $\alpha = .91$.

Concurrent Validity

I ran a *t*-test on the difference between men and women's average responses to the PRMS in order to assess concurrent validity. While not statistically significant, men ($M = 2.91$, $SD = 1.00$) did indeed report more extreme responses than women ($M = 2.65$, $SD = 1.16$), $t(255) = 1.88$, $p = .061$, $d = 0.22$.

Study 2: Factor Structure Replication and Validity Analyses

In Study 1, I found that the PRMS was an internally consistent measure comprised of a single factor. With this known, I conducted a second study to (a) replicate the factor structure and (b) establish the scale's validity. Both processes would allow researchers to learn about the construct of racial microaggression perpetration.

The types of validity assessed in Study 2 were convergent, divergent, and concurrent. For convergent validity, I picked the most commonly used, valid measures of racial prejudice: Color-Blind Racial Attitudes Scale (CoBRAS), Modern Racism Scale (MRS), Symbolic Racism 2000 (SR2K) scale, and Attitudes Toward Blacks (ATB) scale. For divergent validity, the measures used were: Satisfaction with Life Scale (SWLS) and Big Five Inventory-2 (BFI-2.0). I assessed concurrent validity by measuring the difference between men's and women's responses on the PRMS, as was done in Study 1.

Finally, some measures were included to probe exploratory relations. The Multi-Ethnic Identity Measure (MEIM) and White Racial Identity Attitudes Scale (WRIAS) were included to investigate if European Americans' ethnic/racial identity, and feelings regarding their ethnic/racial identity, may relate to their likelihood of racial microaggression perpetration.

Study 2 Method

Participants

I collected data for Study 2 through MTurk as well. Respondents were required to reside in the United States, and all were compensated with \$0.75 for their time. To ensure that participant data were complete and came from unique individuals, I performed listwise deletion and excluded duplicate IP addresses. Of these participants ($N = 662$), 66.5% ($n = 440$) self-identified as European American/White, 10.4% ($n = 69$) as African American/Black, 8.5% ($n = 56$) as Asian American/Asian, 7.4% ($n = 49$) as Hispanic/Latina/Latino, 6.8% ($n = 45$) as Native American, and 0.8% ($n = 5$) as Pacific Islander. Participants were allowed to select more than one ethnicity option, so percentages do not add to 100%.

Analyzed Sample. Given that the extant literature pertaining to racism measurement has focused on the responses of White individuals, I analyzed White participant data only for Study 2 as well. The unique and complete data of 438 White participants ($M_{age} = 35.09$, $SD_{age} = 11.04$; 49.1% [$n = 215$] women, 50.9% [$n = 223$] men) were assessed. As in Study 1, these participants had a binary gender identity as either cisgender or transgender men and women.

Measures

The Two-Question Method of Assessing Gender Identity (2QAGI). I assessed binary gender identity for inclusion in the analyzed sample using this measure. Refer to the Study 1 Method for a description of the 2QAGI.

The Perpetration of Racial Microaggressions Scale (PRMS). This is the same 10-item scale described in Study 1; please refer to the Study 1 Method for a description of the PRMS. My obtained Cronbach's alpha for Study 2 was $\alpha = .89$.

Color-Blind Racial Attitudes Scale (CoBRAS). The CoBRAS is a 20-item measure that assesses color blind racial attitudes, defined as the belief that race is irrelevant and should not be acknowledged (Neville, Lilly, Duran, Lee, & Browne, 2000). The measure consists of three factors, pertaining to unawareness of White privilege (*racial privilege* factor), lack of understanding about racism in established institutions (*institutional discrimination* factor), and failure to acknowledge the current existence of racial discrimination (*blatant racial issues* factor). Using a 1-6 Likert scale from *strongly disagree* (1) to *strongly agree* (6), respondents indicated their agreement with each item. Example items are: "Social policies, such as affirmative action, discriminate unfairly against white people" and "White people in the U.S. have certain advantages because of the color of their skin" (reverse coded). Higher summed scores corresponded with greater acceptance of color blind attitudes. After recoding the appropriate items, my obtained Cronbach's alphas were $\alpha = .89$ (*racial privilege* factor), $\alpha = .87$ (*institutional discrimination* factor), and $\alpha = .81$ (*blatant racial issues* factor). The CoBRAS was included to establish the PRMS's convergent validity.

Modern Racism Scale (MRS). The MRS is a scale that measures overt negative attitudes toward African Americans and their position in American society (McConahay, 1986). On the 14-item version, participants responded to each item with a 1-5 Likert scale

ranging from *strongly disagree* (1) to *strongly agree* (5). Example items are: “Over the past few years, the government and news media have shown more respect to Blacks than they deserve” and “It is easy to understand the anger of Black people in America” (reverse coded). Higher average scores on the MRS conveyed greater support of modern racism beliefs. Once items were recoded, my obtained Cronbach’s alpha was $\alpha = .94$, and the MRS was included to establish convergent validity of the PRMS.

Symbolic Racism 2000 (SR2K) Scale. The 8-item SR2K is a measurement of symbolic racism, which is the endorsement of conservative American values paired with the belief that African Americans violate these values (Henry & Sears, 2002). Five items are scaled from 1-4, and respondents indicated agreement with each statement from *strongly agree* (1) to *strongly disagree* (4). An example of this item type is: “It’s really a matter of some people not trying hard enough; if blacks would only try harder they could be just as well off as whites” (reverse coded). The other three items have slightly different response options. For example, one of these items reads: “Some say that black leaders have been trying to push too fast. Others feel that they haven’t pushed fast enough. What do you think?” and participants could select *trying to push very much too fast* (1), *2 (going too slowly)*, or *3 (moving at about the right speed)*. After recoding, higher average scores on the SR2K corresponded with greater possession of symbolic racism attitudes. The SR2K was included to establish the PRMS’ convergent validity. My obtained Cronbach’s alpha was $\alpha = .82$.

Attitudes Toward Blacks (ATB) Scale. The ATB is designed to assess European Americans' egalitarian attitudes toward African Americans (Brigham, 1993). Respondents indicated their agreement with 20 items on a 1-7 Likert scale from *strongly disagree* (1) to *strongly agree* (7). Example items include: "It would not bother me if my new roommate was black" and "I enjoy a funny racial joke, even if some people might find it offensive" (reverse coded). After recoding the appropriate items, higher summed scores on the ATB conveyed more positive attitudes toward African Americans. My obtained Cronbach's alpha was $\alpha = .90$, and the ATB was included to establish the PRMS' convergent validity.

Satisfaction with Life Scale (SWLS). The SWLS is a self-report assessment of overall life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985). It is a 5-item measure on a 7-point Likert scale, ranging from *strongly disagree* (1) to *strongly agree* (7). An example item is, "In most ways my life is close to my ideal". Higher average scores on the scale indicated more satisfaction with life. My obtained Cronbach's alpha was $\alpha = .92$, and the SWLS was included to establish the PRMS' divergent validity.

Big Five Inventory-2 (BFI-2.0). The BFI-2.0 is a 60-item assessment of five foundational personality traits: *open-mindedness*, *conscientiousness*, *extraversion*, *agreeableness*, and *negative emotionality* (Soto & John, 2017). The BFI-2.0 consists of five factors, one for each personality trait. Using a 1-5 Likert scale from *disagree strongly* (1) to *agree strongly* (5), respondents indicated the extent to which they felt they embody a series of characteristics. Examples are: "Is compassionate, has a soft heart" and

“Tends to be disorganized” (reverse coded). Once all appropriate items were recoded, higher average factor scores indicated greater possession of those traits. My obtained Cronbach’s alphas were $\alpha = .84$ (*extraversion* factor), $\alpha = .86$ (*agreeableness* factor), $\alpha = .89$ (*conscientiousness* factor), $\alpha = .90$ (*negative emotionality* factor), and $\alpha = .88$ (*open-mindedness* factor). The BFI-2.0 was included to establish the PRMS’ divergent validity.

Multi-Ethnic Identity Measure (MEIM). The MEIM is a measure of ethnic identity, or the degree to which an individual embraces and identifies with their ethnic group(s) (Phinney, 1992). The 15-item measure consists of two factors, *ethnic identity search* (pursuing experiences and information relevant to their ethnic group) and *affirmation, belonging, and commitment* (possessing positive feelings about their ethnic group and integrating it into their self-concept). Respondents answered the first 12 items using a 4-point Likert scale from *strongly agree* (4) to *strongly disagree* (1). Example items include: “I participate in cultural practices of my own group, such as special food, music, or customs” and “I have a clear sense of my ethnic background and what it means for me”. Higher average scores on the MEIM indicated a more pronounced sense of ethnic identity. The last three items asked respondents about their own and their parents’ ethnicities. My obtained Cronbach’s alphas were $\alpha = .82$ (*ethnic identity search* factor) and $\alpha = .90$ (*affirmation, belonging, and commitment* factor). The MEIM was included as a relationship of interest.

White Racial Identity Attitude Scale (WRIAS). Included for exploratory purposes, the WRIAS is a 50-item measure designed to assess five “stages” of White

racial identity¹ (Helms & Carter, 1993). The five stages include: *Contact* (obliviousness to race and racial issues), *Disintegration* (awareness of race's implications in society, but unwillingness to acknowledge White privilege), *Reintegration* (gravitation toward things related to Whiteness and avoidance of, as well as anger toward, things related to Blackness), *Pseudo-Independence* (acknowledgment of White privilege and internalization of White identity) and *Autonomy* (possession of secure, nonracist White identity and the desire to end racial oppression). Respondents indicated their agreement with each statement using a 5-point Likert scale from *strongly disagree* (1) to *strongly agree* (5). Example items include: "White people have bent over backwards trying to make up for their ancestors' treatment of Blacks, now it is time to stop" and "I feel as comfortable around Blacks as I do around Whites". Higher average stage scores indicated greater alignment with that stage.

My obtained Cronbach's alphas were $\alpha = .65$ (*contact* stage), $\alpha = .92$ (*disintegration* stage), $\alpha = .93$ (*reintegration* stage), $\alpha = .78$ (*pseudo-independent* stage), and $\alpha = .70$ (*autonomy* stage). Since the alpha for *contact* was below criteria, I did not include that stage in subsequent analyses. Only participants who self-identified as European American/White received the WRIAS. The analyzed subscales were included as relationships of interest.

Concurrent validity. As mentioned in Study 1, men have responded more extremely than women on measures of prejudice. I measured the difference in PRMS responses between men and women to assess concurrent validity for Study 2 as well.

Procedure

After providing informed consent, participants answered initial demographic questions pertaining to their age, gender identity, sexual orientation, and ethnicity. In addition to the PRMS, the analyzed sample also completed (in order) the SWLS, CoBRAS, BFI-2, SR2K, MEIM, ATB, MRS, and WRIAS. To determine if responses on the PRMS would vary based on the order the measures were presented in, 221 participants completed the PRMS before the other measures, while 216 participants completed it after the other measures. Respondents then answered follow-up demographic questions about their current state of residence and their highest level of completed education.

Exploratory Data Analysis, Assumption Checking, and Stopping Rule

Data Screening. To ensure that only unique, completed cases were analyzed, I first performed listwise deletion and screened for duplicate IP addresses.

Assumption Checking. After data screening, I ran boxplots by item for the PRMS to check the EFA assumption of no item-level outliers. None were identified, which permitted my use of EFA on the raw responses to verify the factor structure found in Study 1. I also calculated Cronbach's alpha coefficients for each scale (or subscale, if applicable) to assess their reliability. I only included scales and subscales with an alpha greater than or equal to .70 in subsequent analyses; for this reason, the *contact* subscale of the WRIAS was dropped (see above).

Stopping Rule. The number of completed cases necessary to achieve variance stabilization is 100, which I used as the stopping rule for Study 2 as well. In each order condition, I stopped collecting data once I had 100 completed cases each of White men and women. PRMS responses did not significantly differ based on whether it was presented first within the set of measures ($M = 2.95$, $SD = 1.04$) or last ($M = 2.81$, $SD = 1.02$), $t(436) = 1.36$, $p = .18$, $d = 0.13$. Therefore, I collapsed the data and analyzed the two orders together.

Study 2 Results

Exploratory Factor Analysis

To assess whether the single-factor structure found in Study 1 would replicate, I again conducted an exploratory factor analysis (EFA). The KMO test of sampling adequacy indicated that EFA would be warranted, $KMO_{\text{overall}} = .91$ (which is above the minimum of .60). Additionally, the Bartlett's test suggested the absence of perfect orthogonality, $\chi^2(45) = 1939.94$, $p < .001$. The determinant for the PRMS items was 0.011, meaning that singularity was not present.

With these initial assumption checks passed, I proceeded with EFA by first calculating eigenvalues for the 10 PRMS dimensions, which is the default in the **psych** package (Revelle, 2018) in the **R** statistical environment (R Core Team, 2018). Results showed that for Kaiser's jiffy, two eigenvalues surpassed a value of 1.00, with the first at 5.04 and the second at 1.11 (just slightly over 1.00). It could also be concluded from the scree plot that two factors should be extracted based upon where the rockpile appeared to

begin. Therefore, I initially ran a 2-factor solution using principal axis factoring with an oblimin rotation; however, its reliability was lower and one of the items could not break a tie between the factors. Because of this I decided to only extract one factor for further analysis.

I ran the one-factor solution using principal axis factoring (see Table 2 for factor loadings, means, and standard deviations for each item). I implemented both varimax and oblimin rotations, yet results did not change by rotation type. This solution accounted for 45% of the cumulative variance in responses, and excellent reliability was demonstrated among the items, $\alpha = .89$.

Convergent Validity

To assess convergent validity of the PRMS, I ran a series of bivariate correlations between the PRMS composite score and other anti-Black racism scales (see Table 3 for the correlation matrix). Coefficients ranged from $r = -.71$ (between the PRMS and SR2K) to $.76$ (with the CoBRAS Institutional Discrimination subscale). All coefficients were strong except for the CoBRAS Racial Privilege subscale ($r = .41$), providing support for the convergent validity of the PRMS.

Of note, the SR2K and ATB correlated negatively with the PRMS, which makes sense given what the scales assess and how they are scored. The SR2K, which measures the “blend” of conservative beliefs and antipathy toward African Americans, is negatively scaled such that higher scores indicate less agreement with the construct. Consequently, the SR2K negative correlation means that as participants agreed less with

the conservative values (higher SR2K scores) they also had lower endorsement of racial microaggression perpetration (lower PRMS scores). The ATB is an assessment of egalitarian beliefs, such that higher scores mean increased positivity toward Black individuals; higher scores on the PRMS, however, mean greater likelihood of committing racial microaggressions. Despite the negative directionality of these two correlations, both were still strong in magnitude ($r = -.71$ and $r = -.60$, respectively).

Divergent Validity

I ran additional bivariate correlations to test the divergent validity of the PRMS (correlation coefficients can be found in Table 3). If the scale truly measured likelihood of racial microaggression perpetration, it would not highly correlate with constructs such as satisfaction with life, for example. Correlation coefficients ranged from $r = -.32$ (with the BFI-2 Open-mindedness subscale) to $.22$ (among the PRMS and the SWLS), and most would be classified as trivial or weak if the scales measured the same construct.

Concurrent Validity

To test for concurrent validity, I again ran a *t*-test on the difference between men and women's average responses. While not statistically significant at $p < .05$, men ($M = 2.97$, $SD = .99$) reported more extreme responses than women ($M = 2.79$, $SD = 1.06$), $t(436) = 1.78$, $p = .076$, $d = 0.17$. Study 2's effect size for concurrent validity was similar to that observed in Study 1 ($d = 0.22$). However, the effect sizes from both Studies are much smaller than the smallest observed in other types of prejudice measures, which is $d = .30$ (Ghafur & Tate, 2019).

General Discussion

Results of the present studies suggested that the PRMS is a viable measurement of racial microaggression commission. The scale maintained good psychometric properties, and it appeared to possess convergent and divergent validity as well. While concurrent validity was not displayed at $p < .05$, results descriptively aligned with the expected pattern of men reporting higher scores than women (cf., Ghafur & Tate, 2019).

Measures of racial prejudice have generally correlated with one another between $r = |.60|$ to $|.80|$; correlations ranging from $r = |.30|$ to $|.59|$ have been considered unique in this literature. Almost all correlations between the PRMS and other racism scales, not including the CoBRAS Racial Privilege subscale, were from $|.60|$ to $|.76|$ in magnitude. It can be concluded, then, that racial microaggression perpetration is not a unique or special form of prejudice manifestation. Rather, it can be thought of as an additional, subtle iteration of traditional racial prejudice.

The PRMS correlated most strongly with the CoBRAS Institutional Discrimination subscale and the MRS. Therefore, it seems that racial microaggression perpetration coincides with mentalities that (a) racial discrimination does not influence institutions such as government and policy, and (b) African Americans are forceful in – and undeserving of – the acquirement of resources and status in our country. In other words, as endorsement of such beliefs increased, so would likelihood of committing racial microaggressions.

WRIAS Findings

Potentially interesting findings worth noting involved the WRIAS, a scale which has sparked controversy in the literature pertaining to what it specifically measures. The authors proposed that White individuals can develop a “healthy, non-racist White identity” (Helms & Carter, 1993, p. 67) through a series of five stages, and the WRIAS was designed to assess an individual’s degree of correspondence with each stage. In the original publication, subscale reliabilities were reported via Spearman-Brown’s prophecy formula – not the more common and better regarded Cronbach’s alpha. Additionally, the original authors used non-common standards for retaining items, such as an 11-factor EFA with a .32 factor loading belongingness cutoff – when the common standard is .40 with a rule in place about tie-breaking, which was absent from the original WRIAS discussion. Additionally, the original authors described validity in ways that are out-of-step with modern interpretations of construct validity (cf., Campbell & Fiske, 1959; Westen & Rosenthal, 2003). Therefore, I decided to run an EFA myself and see what would arise. The results of Study 2’s EFA on the WRIAS have been included in Appendix C. In brief, the EFA showed no correspondence to the stated findings of Helms and Carter’s (1993) original study.

Despite this, I divided the items into subscales in the manner suggested by the authors and found some potentially interesting correlations with the PRMS. As outlined by Helms and Carter (1993), the second stage of White identity development, Disintegration, is characterized by recognition of society’s racial issues, but failure to acknowledge one’s own Whiteness and the associated privileges. The items in this stage

correlated with the PRMS at $r = .65$. The third stage described in the theory, Reintegration, is claimed to involve the direction of anger, covert or overt, toward things perceived to be associated with Blackness (Helms & Carter, 1993). Reintegration items correlated with the PRMS at $r = .70$.

The concepts supposedly assessed by the WRIAS Disintegration and Reintegration items may be potential correlates of racial microaggression perpetration; perhaps White individuals within these stages – if the stages exist – would demonstrate a greater likelihood of committing racial microaggressions. However, given the problems with the scale, further investigation of this possibility would be necessary with a measure other than the WRIAS. Additionally, since the PRMS was so highly correlated with the traditional measures of racism included in Study 2, it is parsimonious to state that microaggression perpetration is simply another subtle display of traditional racism.

Limitations

One limitation of this research was that the participants in my samples, MTurk workers residing in the United States, may have varying exposure to African Americans depending on their location. It is plausible that individuals located in central regions of the country may have less interaction with racial minorities, particularly African Americans, than those who reside in coastal states (which tend to be more racially diverse). At this point however, it is currently unknown whether degree of exposure has an influence on racial microaggression perpetration.

A second limitation was that the PRMS is an explicit measure, such that it directly asks participants about their attitudes pertaining to race. It follows, then, that the PRMS is susceptible to the primary critiques of explicit measurement: (a) respondents can control what they disclose (Fazio, 1990), and (b) social norm activation can prompt socially desirable responding (Monteith, Deenen, & Tooman; 1996). However, it is worth noting that implicit measures of racial bias come with their own limitations as well; for example, automatic associations measured by the IAT are susceptible to modification based on what one is exposed to or things about prior to the task (Blair, Ma, & Lenton, 2001; Dasgupta & Greenwald, 2001; Foroni & Mayr, 2005).

Another limitation of the current research was the use of the WRIAS. While the construct it purports to assess – White racial identity – is potentially interesting relevant to the commission of racial microaggressions, the scale itself was questionable. As was stated above, further investigation into the possible relationships that were discovered in Study 2 is necessary with a measure other than the WRIAS.

Future Directions

Going forward, it would be worthwhile to explore the potential distinguishability between the PRMS and other anti-Black racism measures. The PRMS and racism scale correlations ranged from $r = |.41|$ to $|.76|$, suggesting that the PRMS and the other scales do not measure essentially the same construct (as would be the case if the coefficients were $r = |.90|$ in magnitude). Thus, there appears to be some degree of differentiation

between racial microaggression perpetration and other aspects of racism. I believe that understanding where those differences lie would be beneficial to the literature.

As I stated in the Limitations section, one drawback of utilizing the PRMS is that it is an explicit measure. If the assessment of racial microaggression perpetration could be done implicitly, the problems I mentioned above – social norm influence and controllability of responses – would be lessened.

Lastly, the PRMS is a self-report attitudinal measure. If a behavioral assessment was developed, we could assess the correlation between self-reported likelihood of microaggression perpetration and the actual behavior of doing so. This could be important in better understanding the relationship between prejudicial attitudes and discriminatory behavior.

The concept of microaggressions has come to the forefront in today's society, within psychological research as well as the public domain. With awareness on the rise, a reliable and valid scale such as the PRMS will be useful in studying racial microaggression perpetration from the perspective of the actor.

It appears that racial microaggressions are not a separate, new kind of racism, but rather a recent, subtle iteration of traditional racial prejudice. Individuals who self-report a moderate to high likelihood of committing racial microaggressions also report moderate to high racism in the other established forms. Pierce (1970) claimed that microaggressions “come to total up racism” (p. 267). Perhaps racial microaggressions

have been present this whole time – simply as subtle expressions of traditional racial prejudice – and researchers have just recently taken notice.

References

- Bell, C. C. (1994). Finding a way through the maze of racism. *Emerge*, 5(11), 80.
- Blair, I. V., Ma, J. E., & Lenton, A. P. (2001). Imagining stereotypes away: The moderation of implicit stereotypes through mental imagery. *Journal of Personality and Social Psychology*, 81(5), 828-841.
- Brigham, J. C. (1993). College students' racial attitudes. *Journal of Applied Social Psychology*, 23(23), 1933-1967.
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56(2), 81-105.
- Chessin, K., Lazo, A., Strait, M., & Tate, C. (in press). Facilitating and inhibiting factors for self-reports of same-gender attraction in cisgender heterosexual-identifying women and men. *Journal of Sex Research*.
- Dasgupta, N., & Greenwald, A. G. (2001). The malleability of automatic attitudes: Combating automatic prejudice with images of admired and disliked individuals. *Journal of Personality and Social Psychology*, 81(5), 800-814.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49(1), 71-75.
- Fazio, R. H. (1990). Multiple processes by which attitudes guide behavior: The mode model as an integrative framework. *Advances in Experimental Social Psychology*, 23, 75-109.

- Foroni, F., & Mayr, U. (2005). The power of a story: New, automatic associations from a single reading of a short scenario. *Psychonomic Bulletin & Review*, *12*(1), 139-144.
- Ghafur, R., & Tate, C. (2019). *Toward an understanding of trait competition, cooperation, and explicit intergroup prejudice*. Manuscript submitted for publication.
- Helms, J. E., & Carter, R. T. (1993). Development of the White Racial Identity Inventory. In J. E. Helms (Ed.), *Black and white racial identity: Theory, research, and practice* (pp. 67-80). Westport, CT: Praeger Publishers.
- Henry, P. J., & Sears, D. O. (2002). The Symbolic Racism 2000 Scale. *Political Psychology*, *23*(2), 253-283.
- Kanter, J. W., Williams, M. T., Kuczynski, A. M., Manbeck, K. E., Debreaux, M., & Rosen, D. C. (2017). A preliminary report on the relationship between microaggressions against black people and racism among college students. *Race and Social Problems*, *9*, 291-299.
- McConahay, J. B. (1986). Modern racism, ambivalence, and the Modern Racism Scale. In J. F. Dovidio & S. L. Gaertner (Eds.), *Prejudice, discrimination, and racism* (pp. 91-125). San Diego, CA, US: Academic Press.
- Monteith, M. J., Deneen, N. E., & Tooman, G. D. (1996). The effect of social norm activation on the expression of opinions concerning gay men and Blacks. *Basic and Applied Social Psychology*, *18*(3), 267-288.

- Nadal, K. L. (2011). The Racial and Ethnic Microaggressions Scale (REMS): Construction, reliability, and validity. *Journal of Counseling Psychology, 58*(4), 470-480.
- Neville, H. A., Lilly, R. L., Duran, G., Lee, R. M., & Browne, L. (2000). Construction and initial validation of the Color-Blind Racial Attitudes Scale (CoBRAS). *Journal of Counseling Psychology, 47*(1), 59-70.
- Phinney, J. (1992). The Multigroup Ethnic Identity Measure: A new scale for use with adolescents and young adults from diverse groups. *Journal of Adolescent Research, 7*, 156-176.
- Pierce, C. (1970). Offensive mechanisms. In F. B. Barbour, (Ed.), *The black seventies* (pp. 265-282). Boston, MA: Porter Sargent.
- R Core Team (2018). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>
- Revelle, W. (2018). psych: Procedures for personality and psychological research. Northwestern University, Evanston, Illinois. R package version 1.8.4. <https://CRAN.R-project.org/package=psych>
- Sanders Thompson, V. L. (2002). Racism: Perceptions of distress among African Americans. *Community Mental Health Journal, 38*(2), 111-118.

- Solórzano, D., Ceja, M., & Yosso, T. (2000). Critical race theory, racial microaggressions, and campus racial climate: The experiences of African American college students. *Journal of Negro Education, 69*(1-2), 60-73.
- Soto, C. J., & John, O. P. (2017). The next Big Five Inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. *Journal of Personality and Social Psychology, 113*(1), 117-143.
- Sue, D. W., Capodilupo, C. M., Torino, G. C., Bucceri, J. M., Holder, A. M. B., Nadal, K. L., & Esquilin, M. (2007). Racial microaggressions in everyday life: Implications for clinical practice. *American Psychologist, 62*(4), 271-286.
- Tate, C. (2011). The “problem of number” revisited: The relative contributions of psychosocial, experiential, and evolutionary factors to the desired number of sexual partners. *Sex Roles, 64*(9-10), 644-657.
- Tate, C. C., Ledbetter, J. N., & Youssef, C. P. (2013). A two-question method for assessing gender categories in the social and medical sciences. *Journal of Sex Research, 50*(8), 767-776.
- Torres-Harding, S. R., Andrade, A. L. Jr., & Romero Diaz, C. E. (2012). The Racial Microaggressions Scale (RMAS): A new scale to measure experiences of racial microaggressions in people of color. *Cultural Diversity and Ethnic Minority Psychology, 18*(2), 153-164.
- Westen, D., & Rosenthal, R. (2003). Quantifying construct validity: Two simple

measures. *Journal of Personality and Social Psychology*, 84, 608-618.

Wong, G., Derthick, A., David, E., Saw, A., & Okazaki, S. (2014). The what, the why, and the how: A review of racial microaggressions research in psychology. *Race and Social Problems*, 6(2), 181-200.

Footnote

¹To verify that the measure is comprised of factors that align with the authors' proposed stages, I ran an EFA on the WRIAS. It was found, however, that the factors did not correspond with the authors' theory. I will therefore refer to the groupings as stages, rather than factors. For more information, refer to the Limitations section and Appendix C.

Table 1

PRMS Exploratory Factor Analysis Factor Loadings with Item Means and Standard Deviations (Study 1)

Item	Factor 1	<i>M</i>	<i>SD</i>
A lot of minorities are too sensitive.	.89	2.72	1.47
White privilege doesn't really exist.	.80	2.63	1.51
The police have a tough job. It is not their fault if they occasionally make a mistake.	.80	2.86	1.39
Black people get unfair advantages due to scholarships and affirmative action.	.78	2.73	1.41
It's unfair that black people can say the N-word but white people can't.	.76	2.53	1.44
Hard work can overcome white privilege.	.73	3.08	1.40
It's alright for a white person to say the N-word if they are singing it in a song.	.64	2.54	1.42
I am definitely not a racist. It is a problem, but it is not my problem.	.61	2.87	1.46
All lives matter, not just black lives.	.58	3.28	1.48
I don't think of black people as black.	.56	2.76	1.38

Table 2

PRMS Exploratory Factor Analysis Factor Loadings with Item Means and Standard Deviations (Study 2)

Item	Factor 1	<i>M</i>	<i>SD</i>
A lot of minorities are too sensitive.	.82	2.79	1.51
Black people get unfair advantages due to scholarships and affirmative action.	.76	2.71	1.46
White privilege doesn't really exist.	.75	2.68	1.54
It's unfair that black people can say the N-word but white people can't.	.73	2.56	1.48
The police have a tough job. It is not their fault if they occasionally make a mistake.	.70	2.82	1.42
Hard work can overcome white privilege.	.67	3.08	1.37
All lives matter, not just black lives.	.60	3.64	1.50
I am definitely not a racist. It is a problem, but it is not my problem.	.57	3.11	1.41
It's alright for a white person to say the N-word if they are singing it in a song.	.56	2.42	1.46
I don't think of black people as black.	.49	3.00	1.42

Table 3

Correlations Between Perpetration of Racial Microaggressions Scale and Other Measures of Interest (Study 2)

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. PRMS	--													
CoBRAS														
2. Racial Privilege	0.41	--												
3. Institutional Discrimination	0.76	0.51	--											
4. Racial Issues	0.7	0.62	0.75	--										
5. MRS	0.72	0.26	0.7	0.71	--									
6. SR2K	-0.71	-0.69	-0.79	-0.8	-0.7	--								
7. ATB	-0.6	-0.24	-0.59	-0.64	-0.88	0.62	--							
WRIAS														
8. Disintegration	0.65	0.02	0.58	0.55	0.85	-0.5	-0.78	--						
9. Reintegration	0.7	0.14	0.66	0.62	0.91	-0.61	-0.85	0.92	--					
10. Pseudo-Independence	-0.02	-0.25	-0.13	-0.24	-0.25	0.26	0.43	-0.12		--				
11. Autonomy	-0.1	-0.33	-0.17	-0.34	-0.32	0.36	0.44	-0.11	-0.21	0.77	--			
MEIM														
12. Identity Search	0.34	-0.12	0.26	0.22	0.43	-0.18	-0.33	0.47	0.47	0.13	0.12	--		
13. Affirmation	0.3	0.05	0.3	0.18	0.29	-0.22	-0.19	0.27	0.31	0.22	0.2	0.69	--	
BFI-2														
14. Extraversion	0.03	0.06	0.03	0.01	-0.04	-0.05	0.08	-0.1	-0.05	0.18	0.12	0.14	0.23	--
15. Agreeableness	-0.3	0.01	-0.27	-0.32	-0.47	0.27	0.52	-0.53	-0.52	0.22	0.24	-0.14	0.08	0.25
16. Conscientiousness	-0.06	0.16	-0.03	-0.06	-0.19	-0.01	0.26	-0.34	-0.27	0.13	0.08	-0.08	0.13	0.39
17. Negative Emotionality	-0.08	-0.18	-0.09	-0.1	0.02	0.11	-0.07	0.13		0.07	-0.08	0.00	0.04	-0.1
18. Open-mindedness	-0.32	-0.05	-0.24	-0.33	-0.43	0.29	0.45	-0.49	-0.44	0.25	0.22	-0.1	0.00	0.37
19. SWLS	0.22	0.04	0.14	0.15	0.18	-0.15	-0.06	0.19	0.18	0.23	0.18	0.28	0.28	0.36

Note. PRMS = Perpetration of Racial Microaggressions Scale; CoBRAS = Color-Blind Racial Attitudes Scale; MRS = Modern Racism Scale; SR2K = Symbolic Racism 2000 Scale; ATB = Attitudes Toward Blacks Scale; WRIAS = White Racial Identity Attitudes Scale; MEIM = Multi-Ethnic Identity Measure; BFI-2 = Big Five Inventory-2; SWLS = Satisfaction with Life Scale

Table 3

Correlations Between Perpetration of Racial Microaggressions Scale and Other Measures of Interest (Study 2)

Measure	15	16	17	18	19
1. PRMS					
CoBRAS					
2. Racial Privilege					
3. Institutional Discrimination					
4. Racial Issues					
5. MRS					
6. SR2K					
7. ATB					
WRIAS					
8. Disintegration					
9. Reintegration					
10. Pseudo-Independence					
11. Autonomy					
MEIM					
12. Identity Search					
13. Affirmation					
BFI-2					
14. Extraversion					
15. Agreeableness	--				
16. Conscientiousness	0.57	--			
17. Negative Emotionality	-0.38	-0.59	--		
18. Open-mindedness	0.44	0.42	-0.19	--	
19. SWLS	0.16	0.26	-0.49	-0.05	--

Note. PRMS = Perpetration of Racial Microaggressions Scale; CoBRAS = Color-Blind Racial Attitudes Scale; MRS = Modern Racism Scale; SR2K = Symbolic Racism 2000 Scale; ATB = Attitudes Toward Blacks Scale; WRIAS = White Racial Identity Attitudes Scale; MEIM = Multi-Ethnic Identity Measure; BFI-2 = Big Five Inventory-2; SWLS = Satisfaction with Life Scale

Appendix A

Items Chosen from Kanter et al. (2017) with Original Means and Standard Deviations

Item	<i>M</i>	<i>(SD)</i>
1. All lives matter, not just black lives.	3.40	(1.44)
2. It's alright for a white person to say the N-word if they are singing it in a song. ^a	1.93	(1.08)
3. Hard work can overcome white privilege.	2.58	(1.34)
4. Black people get unfair advantages due to scholarships and affirmative action.	2.29	(1.27)
5. The police have a tough job. It is not their fault if they occasionally make a mistake.	2.53	(1.34)
6. It's unfair that black people can say the N-word but white people can't.	1.95	(1.22)
7. I am definitely not a racist. It is a problem, but it is not my problem.	1.99	(1.27)
8. I don't think of black people as black.	2.70	(1.33)
9. White privilege doesn't really exist.	1.91	(1.13)
10. A lot of minorities are too sensitive.	1.99	(1.18)

Note. All items were selected from the Cultural Cognitions and Actions Survey. (Kanter et al. (2017). A preliminary report on the relationship between microaggressions against black people and racism among college students. *Race and Social Problems*, 9, 291-299. Items were selected based on high means (*M*) and standard deviations (*SD*), relative to the other items. Items were extracted from original scale except for ^a, which was reworded by the author.

Appendix B

The Perpetration of Racial Microaggressions Scale (PRMS)

The following questions will ask about your behavioral interactions. It is perfectly fine to express your honest perspective, as we want to capture a wide range of experiences. There are no right or wrong answers.

When interacting with someone of a different racial identity, how likely are you to say or think the following:

	1	2	3	4	5
	Very unlikely	Somewhat unlikely	Unsure	Somewhat likely	Very likely
Item					
1. All lives matter, not just black lives.					
2. It's alright for a white person to say the N-word if they are singing it in a song. ^a					
3. Hard work can overcome white privilege.					
4. Black people get unfair advantages due to scholarships and affirmative action.					
5. The police have a tough job. It is not their fault if they occasionally make a mistake.					
6. It's unfair that black people can say the N-word but white people can't.					
7. I am definitely not a racist. It is a problem, but it is not my problem.					
8. I don't think of black people as black.					
9. White privilege doesn't really exist.					
10. A lot of minorities are too sensitive.					

Note. No items are reverse-coded.

Appendix C

Exploratory Factor Analysis for the White Racial Identity Attitudes Scale (WRIAS)

Assumption Checks

```

WRIAS.items = Study2Data[c(166:215)]

KMO(WRIAS.items)

## Kaiser-Meyer-Olkin factor adequacy
## Call: KMO(r = WRIAS.items)
## Overall MSA = 0.94
## MSA for each item =
##  WRIAS_1  WRIAS_2  WRIAS_3  WRIAS_4  WRIAS_5  WRIAS_6  WRIAS_7  WRIAS_8
##  0.75    0.95    0.96    0.93    0.92    0.96    0.96    0.98
##  WRIAS_9  WRIAS_10 WRIAS_11 WRIAS_12 WRIAS_13 WRIAS_14 WRIAS_15 WRIAS_16
##  0.93    0.91    0.89    0.96    0.98    0.87    0.93    0.88
##  WRIAS_17 WRIAS_18 WRIAS_19 WRIAS_20 WRIAS_21 WRIAS_22 WRIAS_23 WRIAS_24
##  0.97    0.97    0.87    0.92    0.67    0.96    0.93    0.91
##  WRIAS_25 WRIAS_26 WRIAS_27 WRIAS_28 WRIAS_29 WRIAS_30 WRIAS_31 WRIAS_32
##  0.84    0.89    0.98    0.91    0.88    0.82    0.82    0.96
##  WRIAS_33 WRIAS_34 WRIAS_35 WRIAS_36 WRIAS_37 WRIAS_38 WRIAS_39 WRIAS_40
##  0.97    0.86    0.94    0.94    0.97    0.97    0.87    0.84
##  WRIAS_41 WRIAS_42 WRIAS_43 WRIAS_44 WRIAS_45 WRIAS_46 WRIAS_47 WRIAS_48
##  0.97    0.97    0.96    0.94    0.79    0.94    0.90    0.97
##  WRIAS_49 WRIAS_50
##  0.92    0.94

KMO = .94; larger than .60, so sample is adequate

cor.test.bartlett(WRIAS.items)

## R was not square, finding R from data

## $chisq
## [1] 13536.95
##
## $p.value
## [1] 0
##
## $df
## [1] 1225

p-val = 0; less than .05, so no perfect orthogonality

det(cor(WRIAS.items, use = "complete.obs"))

## [1] 9.674883e-15

Less than .00001, so there may be singularity

Almost all assumptions are met. There may be singularity, but we will have to run EFA to see. If there is, principal components analysis will have to be used rather than factor analysis.

```

Appendix C

Exploratory Factor Analysis for the White Racial Identity Attitudes Scale (WRIAS)

Factor Extaction Criteria

```

WRIAS.factors = fa(WRIAS.items, rotate = "none")

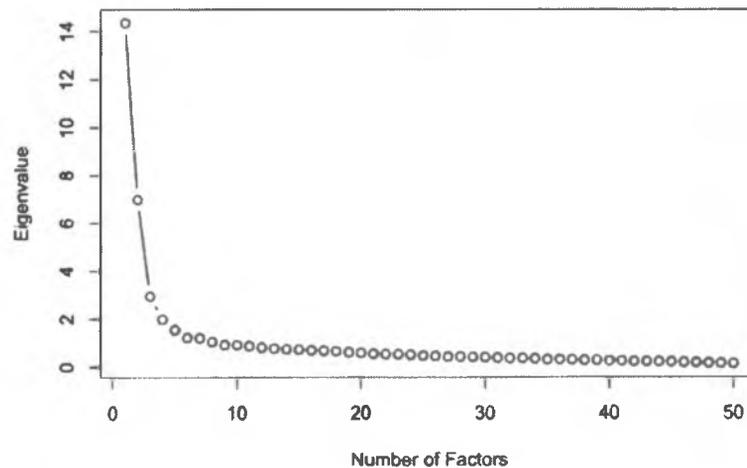
# Kaiser's jiffy
sort(WRIAS.factors$values)

## [1] 0.1345876 0.1463780 0.1587996 0.1779095 0.1900502 0.2038759
## [7] 0.2155621 0.2172074 0.2226371 0.2483027 0.2526412 0.2781260
## [13] 0.2891181 0.3037855 0.3083233 0.3092145 0.3423789 0.3537810
## [19] 0.3635515 0.3785836 0.3968233 0.4124813 0.4244949 0.4266214
## [25] 0.4476908 0.4666103 0.5050829 0.5242287 0.5295802 0.5463093
## [31] 0.5864681 0.6153561 0.6587701 0.6762882 0.6900889 0.7201417
## [37] 0.7411213 0.7709950 0.8134651 0.8598227 0.9138661 0.9281792
## [43] 1.0469199 1.1993526 1.2196307 1.5402493 1.9786067 2.9461328
## [49] 6.9699017 14.3499071

```

Eight eigenvalues over 1

```
plot(WRIAS.factors$values, type = "b", xlab = "Number of Factors", ylab = "Eigenvalue")
```



5-6 distinct factors before the rockpile

Since the WRIAS is designed to assess 5 stages of White racial identity development, I will extract 5 factors.

Appendix C

Exploratory Factor Analysis for the White Racial Identity Attitudes Scale (WRIAS)

Running the EFA

Contact: items ending in 1 or 6

Disintegration: items ending in 2 or 7

Reintegration: items ending in 3 or 8

Pseudo-Independence: items ending in 4 or 9

Autonomy: items ending in 5 or 0

```

PA.WRIAS.5factor = fa(WRIAS.items, 5, rotate = "varimax", fm = "pa")
print.psych(PA.WRIAS.5factor, cut = 0.3, sort = TRUE)

## Factor Analysis using method = pa
## Call: fa(x = WRIAS.items, nfactors = 5, rotate = "varimax", fm = "pa")
## Standardized loadings (pattern matrix) based upon correlation matrix
##
##      item  PA1  PA4  PA2  PA3  PA5  h2  u2  com
## WRIAS_37  37  0.89                0.80 0.20 1.0
## WRIAS_7   7  0.88                0.79 0.21 1.0
## WRIAS_33  33  0.87                0.76 0.24 1.0
## WRIAS_38  38  0.86                0.75 0.25 1.0
## WRIAS_13  13  0.84                0.73 0.27 1.0
## WRIAS_27  27  0.82                0.70 0.30 1.1
## WRIAS_17  17  0.82                0.70 0.30 1.1
## WRIAS_18  18  0.80                0.72 0.28 1.2
## WRIAS_8   8  0.78                0.67 0.33 1.2
## WRIAS_12  12  0.75                0.67 0.33 1.4
## WRIAS_48  48  0.75                0.62 0.38 1.2
## WRIAS_42  42  0.75                0.65 0.35 1.3
## WRIAS_41  41  0.74                0.56 0.44 1.0
## WRIAS_22  22  0.68                0.56 0.44 1.4
## WRIAS_32  32  0.65                0.51 0.49 1.4
## WRIAS_43  43  0.62 -0.35                0.56 0.44 1.9
## WRIAS_6   6  0.60                0.32                0.49 0.51 1.7
## WRIAS_3   3  0.55                0.52                0.60 0.40 2.1
## WRIAS_2   2  0.53                0.43                0.51 0.49 2.3
## WRIAS_15  15  0.38                0.25 0.75 2.3
## WRIAS_4   4  0.68                0.54 0.46 1.4
## WRIAS_49  49  0.65                0.54 0.46 1.6
## WRIAS_34  34  0.58                0.39 0.61 1.3
## WRIAS_50  50  0.56                0.49 0.51 2.2
## WRIAS_9   9  0.53                0.40 0.60 1.9
## WRIAS_30  30  0.48                0.24 0.76 1.1
## WRIAS_39  39  0.35 0.47                0.41 0.59 2.7
## WRIAS_14  14  0.44                0.26 0.74 1.6
## WRIAS_5   5  0.44                0.30 0.70 2.1
## WRIAS_29  29  0.43 0.32                0.36 0.64 2.7
## WRIAS_35  35 -0.37 0.42                0.31 0.50 0.50 1.9
## WRIAS_36  36  0.42                0.35 0.65 2.9
## WRIAS_26  26  0.71                0.54 0.46 1.2
## WRIAS_25  25  0.67                0.55 0.45 1.5
## WRIAS_40  40  0.66 -0.30                0.58 0.42 1.7
## WRIAS_16  16  0.61                0.44 0.56 1.4
## WRIAS_10  10  0.58                0.42 0.58 1.5
## WRIAS_20  20  0.33 0.57                0.52 0.48 2.2
## WRIAS_46  46  0.37 0.55                0.53 0.47 2.4
## WRIAS_19  19  0.46                0.30 0.70 1.9
## WRIAS_11  11  0.41                0.28 0.72 2.2
## WRIAS_44  44  0.35 0.38                0.30 0.45 0.55 3.9

```

Appendix C

Exploratory Factor Analysis for the White Racial Identity Attitudes Scale (WRIAS)

```

## WRIAS_47  47  0.35          0.63      0.59 0.41 1.9
## WRIAS_23  23  0.53          0.62      0.71 0.29 2.2
## WRIAS_28  28  0.35          0.62      0.52 0.48 1.7
## WRIAS_21  21          0.48 0.27 0.73 1.4
## WRIAS_31  31          0.45 0.29 0.71 1.8
## WRIAS_45  45          0.30 0.40 0.31 0.69 2.6
## WRIAS_1   1          0.40 0.19 0.81 1.4
## WRIAS_24  24          0.35 0.38 0.62 3.9
##
##          PA1 PA4 PA2 PA3 PA5
## SS loadings  12.60 4.24 4.23 2.57 1.58
## Proportion Var  0.25 0.08 0.08 0.05 0.03
## Cumulative Var  0.25 0.34 0.42 0.47 0.50
## Proportion Explained  0.50 0.17 0.17 0.10 0.06
## Cumulative Proportion  0.50 0.67 0.84 0.94 1.00
##
## Mean item complexity = 1.8
## Test of the hypothesis that 5 factors are sufficient.
##
## The degrees of freedom for the null model are 1225 and the objective function was 32.27 with Chi Square of
13536.95
## The degrees of freedom for the model are 985 and the objective function was 4.73
##
## The root mean square of the residuals (RMSR) is 0.03
## The df corrected root mean square of the residuals is 0.04
##
## The harmonic number of observations is 438 with the empirical chi square 1063.42 with prob < 0.041
## The total number of observations was 438 with Likelihood Chi Square = 1969.59 with prob < 4.6e-68
##
## Tucker Lewis Index of factoring reliability = 0.9
## RMSEA index = 0.05 and the 90 % confidence intervals are 0.045 0.051
## BIC = -4021.39
## Fit based upon off diagonal values = 0.99
## Measures of factor score adequacy
##
##          PA1 PA4 PA2 PA3 PA5
## Correlation of (regression) scores with factors  0.98 0.91 0.92 0.89 0.82
## Multiple R square of scores with factors  0.96 0.84 0.85 0.80 0.67
## Minimum correlation of possible factor scores  0.93 0.67 0.71 0.59 0.34

```

I ran a five-factor solution using principal axis factoring with a varimax rotation, which accounted for 50% of the cumulative variance in responses. However, factor loadings did not align with the stages outlined in Helms and Carter's (1993) theory. Items did not load onto their appropriate factors in the initial publication either, yet the authors explained this by stating that "White identity development is complex and many of the items seem to be assessing multidimensional White racial identity" (Helms & Carter, 1993, p. 80).