

---

# AMERICAN JOURNAL OF PSYCHOLOGICAL RESEARCH

---

Volume 5, Number 1  
Submitted: April 8, 2009  
Revisions: May 25, 2009  
Accepted: June 4, 2009  
Publication Date: June 5, 2009

## **Relationships of Research Attitudes, Racial Identity, and Cultural Mistrust**

Lauren Mizock and Debra Harkins

Suffolk University

lauren.mizock@suffolk.edu

### **ABSTRACT**

*While a significant body of literature has examined the impact of racial identity on counseling, little research has focused on how racial identity predicts attitudes towards research. Given the profound history of racial injustices committed against Black participants in research settings and the underrepresentation of participants of color in psychological research, it is important to further investigate attitudes towards research in relation to racial identity and cultural mistrust. Results in this study of 113 participants supported the hypotheses that Black participants ( $n = 52$ ) will endorse more negative attitudes towards research than White participants ( $n = 61$ ), and that variables of racial identity and cultural mistrust will predict research attitudes. Results and implications of the study for research practices are discussed.*

**Key words:** Black racial identity, White racial identity, research attitudes, cultural mistrust

## INTRODUCTION

A significant body of literature has examined how racial identity predicts attitudes towards counseling (Constantine, Warren, & Miville, 2005; Helms & Carter, 1991; Nickerson, Helms, & Terrell, 1994; Watkins, Terrell, Miller, & Terrell, 1989). However, few studies have examined the relationship between race-related variables in predicting attitudes towards research. Repeated racial bias in psychological research makes examination of subject attitudes towards research imperative. This history includes numerous injustices committed against Black participants and an overrepresentation of Whites in subject pools (Cort, 2004; Delgado-Romero, Galván, Maschino, & Rowland, 2005; Kapsalis, 1997; Quinland et al., 2004). To avoid reproducing this damaging history, a study of the relationship between racial identity and research attitudes may clarify the effects of this research on participants and facilitate the development of more empowering methodologies.

### *Research Attitudes*

Previous investigation of research attitudes have focused primarily on students enrolled in statistics courses and their perceived self-efficacy in conducting research (Bieschke, Bishop, & Garcia, 1996; Forester, Kahn, Hesson-McInnis, 2004; Papanastasiou, 2005). Limited investigation has examined attitudes towards research linked to issues of race and ethnicity. The Tuskegee syphilis study and nonconsensual experiments conducted on slaves at the turn of the century are likely to contribute to negative attitudes towards research among Black populations (Cort, 2004; Kapsalis, 1997). One study demonstrated the potential consequences of this history. Singer (1984) found that when participants were asked about risks of participating in research, Black participants as a group were more suspicious of research practices than White participants. Further study is needed to explore differences among racial groups in expressing aversion to research due to awareness of racial bias in experimentation. Singer also found attitudes towards research loaded in the categories of suspiciousness towards research, importance of information, and concern about confidentiality in the context of a research study. Participant attitudes towards research are likely to fall within similar groupings of ethical concerns and value in research, which may differ across racial groups.

### *Racial Identity Theory*

Racial identity theory can be used to address the complexity of the probable relationship between race and research attitudes, in addition to assessing within-group differences among racial groups. Exploring within-group differences is critical in studies of race given its socially constructed nature and the tendency for results to reinforce stereotypes when generalized to all members of a racial group (Helms, 1990). Racial identity theory originally described several racial identity states as stages that were later redefined as schemas which influence perception of issues of race (Helms, 1995).

*Black racial identity theory.* Racial identity schemas of Black participants may address within-group differences among Black participants in their attitudes towards

research. Helms's Black racial identity theory (1990) described this construct as the degree to which Black individuals overcome negative depictions of their racial group in broader society and associate with one's racial group (Helms, 1990). The initial status of this model is *Pre-Encounter* including a high regard for the dominant White group, low racial consciousness, and negative attitudes towards Black groups. This status is characterized by internalized racism, low self-esteem, and assimilation of White cultural values. The *Post-Encounter* schema marks the beginning of questioning a value in White culture and devaluing of Black culture. This status is distinguished by a critical experience, a shift in perspective, anger, and guilt. *Immersion* occurs when the individual immerses in Black culture, holding both cultural pride and withdrawal from dominant White culture. *Emersion*, in contrast, marks the individual's integration of the former racial identity into a new identity that is appreciative of Black culture, entailing more leniency and tolerance toward dominant and oppressed racial groups. *Internalization* is the development of a positive affiliation with Black culture and a political commitment to social justice.

Black racial identity attitudes have predicted a wide range of variables including preference for White male counselors (Helms & Carter, 1991) gender role conflict and psychological symptoms in Black men (Carter, Williams, Juby, & Buckley, 2005), and acculturation (Pope-Davis, Liu, Ledesma-Jones, & Nevitt, 2000). Most research on racial identity attitudes have centered on how this variable has affected the counseling process. Missing from previous study is investigation of the relationship between racial identity attitudes and the research process. A high level of awareness of racial bias and antipathy towards the dominant group is likely to be predictive of more negative attitudes towards research given the history of exploitative practices within this field.

*White racial identity theory.* Helms (1990) developed a model of White racial identity that evaluates the manner in which Whites respond to and interpret race-related information and create a positive White identity while committing to social justice. White racial identity schemas are delineated in several categories. The *Contact* schema is characterized by ignorance of racial differences and a color blind attitude. The *Disintegration* schema embodies a sense of conflict regarding treatment of Blacks in the United States with an approach of either over-identifying with Black culture or recoiling into White culture. *Reintegration* pertains to idealized Whiteness and negative, distant attitudes toward Blacks. *Pseudo-Independence* denotes the emergence of an acceptance of racial differences and an emotionally distant and intellectualized perspective towards racism. *Immersion-Emersion* is indicative of creating a positive sense of one's Whiteness that holds personal significance. Lastly is the *Autonomy* schema, in which the individual has an integrated sense of White identity as well as knowledge of racism including an engagement in social activism.

White racial identity is a powerful construct that has been predictive of attitudes of Whites for many variables, including preference for race of counselor (Helms & Carter, 1991), memory for racial stereotypes (Gushue & Carter, 2000), multicultural counseling competence (Constantine, Warren, & Miville, 2005), and racism (Carter, Helms, & Juby, 2004). It is likely that Whites with racial identity schemas that denote an

awareness of racism may hold more negative attitudes towards research given their sensitivity to racial bias in general and its implications for the research field.

### *Cultural Mistrust*

High levels of cultural mistrust may also be associated with negative attitudes towards research among Black participants. Terrell and Terrell (1981) defined cultural mistrust as the general lack of trust among Blacks towards Whites and other predominantly White mainstream systems given the long history of racism and oppression. Ridley (1984) suggested that mental health services are associated with White mainstream society and are, thus, underutilized. This association may occur in research settings as well. The small number of visible researchers of color may add to distrust of researchers and fear of being treated as guinea pigs in predominantly White settings (Cort, 2004). However, one may not necessitate knowledge of the Tuskegee experiment to be mistrustful towards research, but simply have a familiarity with the longstanding history of racial bias and mistreatment of Blacks by White institutions (Cort, 2004; Gamble, 1997).

The Cultural Mistrust Inventory was created in order to measure this construct in association with other variables among Black populations (Terrell & Terrell, 1981). Cultural mistrust has been linked to mistrust of medical facilities and hospice care (Cort, 2004), increased rates of therapy termination with White counselors (Watkins, Terrell, Miller, & Terrell, 1989), and lowered likelihood of seeking counseling from White counselors (Nickerson, Helms, & Terrell, 1994). Additional research is needed to evaluate whether the relationship between cultural mistrust and attitudes towards counseling and medicine can be extended to research settings. It is probable that Black individuals with cultural mistrust may have more negative attitudes towards research due to the relationship of traditional research with White mainstream culture.

The purpose of this study was to examine research attitudes among Black and White participants, and how these attitudes might be predicted by racial identity and cultural mistrust. Several hypotheses were formed: 1) Among the several subscales of attitudes towards research that will be formed, Black participants will endorse more negative attitudes towards research than White participants. 2) Racial identity attitudes and cultural mistrust among Black participants will predict attitudes towards research among Black participants. Specifically, racial identity attitudes characterized by the development of a positive sense of Black identity (Post-Encounter, Immersion, Emersion, Internalization) and higher levels of cultural mistrust (Business and Work, Education and Training, Interpersonal Relations, and Politics and Law) will significantly predict more negative attitudes towards research. 3) White racial identity attitudes marking more awareness of racism (Pseudo-Independence, Immersion-Emersion, Autonomy) will predict more negative attitudes towards research among White participants. Conversely, White racial identity attitudes characterized by a lack of awareness of racism (Contact, Disintegration, Reintegration) will significantly predict more positive attitudes towards research.

## METHOD

### *Participants*

Participants included 113 undergraduate students at a university in the Northeastern region of the U.S. Fifty two black participants (27 women, 25 men) and 61 white participants (35 women, 26 men) took part in the study. Participants who were first generation in the United States were 25% of the total sample with 75% being second generation or more. Region of upbringing for participants was 6.3% rural, 28.6% small town, 33.9% suburban, and 31.3% urban. Participants reported estimated combined family income as 11.8% over \$150,000 per year, 16.7% between \$100,000 and \$150,000, 26.5% between \$70,000 and \$100,000, 25.5% between \$40,000 and \$70,000, 9.8% between \$20,000 and \$40,000, and 9.8% under \$20,000. Demographic representation among students at this northeastern university among the full-time undergraduate population is 2.96% Black, 64.25% White, 6.24% Asian American, 4.25% Hispanic, 9.13% International, 0.27% Native American, and 12.8% are unspecified.

### *Procedure*

Participants were selected from psychology courses and the campus student activities center. Participants were informed as to the general nature of the study, to examine issues of race in relation to research processes, and were provided with the option to receive the results once analyzed. Participants were asked to self-identify their race in order to select the appropriate scale in the survey packet. The overall response rate was 84%.

The individual survey packets contained the same order of measures. Both a Black female investigator and a White female investigator were present during administration of the survey packets by small groups of Black and White participants. The groups of participants who completed the survey were generally split proportionally in terms of racial identity.

### *Measures*

*Cultural Mistrust Inventory.* The Cultural Mistrust Inventory ([CMI]; Terrell & Terrell, 1981) is a 48 item scale that assesses African Americans' levels of mistrust of White society. Each item is on a 10-point scale, ranging from 0 (strongly disagree) to 9 (strongly agree). Items are focused in the four areas: Business and Work ("A Black person can usually trust his or her White coworkers") Education and Training ("White teachers teach subjects so that it favors Whites"), Interpersonal Relations ("White friends are least likely to break their promise"), and Politics and Law ("White politicians will promise Blacks a lot but deliver little"). A high score on the CMI indicates a high level of cultural mistrust and a low score indicates a low level of cultural mistrust. High test-retest reliability has been demonstrated for the inventory with a Cronbach's alpha of 0.83 (Terrell & Terrell, 1981). Terrell and Terrell established criterion validity and a lack of correlation between social desirability measures and the CMI. Whaley (2002) established criterion validity with non-clinical paranoia and discriminant validity with measures of

self-esteem and paranoia. Reliability for the total CMI for this study was acceptable with a Cronbach's alpha coefficient of .89. Alpha coefficients for subscales in this study were assessed for Business and Work (.76), Education and Training (.70), Interpersonal Relations (.36), and Politics and Law (.73).

*Black Racial Identity Attitude Scale.* The Black Racial Identity Attitude Scale ([BRIAS]; Helms & Carter, 1995) is a 60 item-scale for Black participants with a 5-point Likert scale from 1 (strongly agree) to 5 (strongly disagree) to assess how one views oneself in relation to one's own racial group and other racial groups. Each item corresponds to one of the following 5 schemas of racial identity attitudes: Pre-Encounter ("I believe that large numbers of Blacks are untrustworthy"), Post-Encounter ("I'm not sure how I feel about myself racially"), Immersion ("I frequently confront the system and the [White] man"), and Internalization ("I believe that being Black is a positive experience"). The schema with the highest score is determined to be the participant's schema of racial identity development.

Good construct validity has been found for participation in Black cultural activities for Black students in the Post-Encounter, Immersion, and Internalization schemas (Mitchell & Dell, 1992). Good convergent validity was also demonstrated in the positive correlation of ethnic identity with the Encounter, Immersion-Emersion, and Internalization scores for the Black students significant at  $p < 0.05$  level (Lemon & Whaeler, 1996). High to moderate internal consistency has been established with the following reliability coefficients: Pre-Encounter (.76), Post-Encounter (.51), Immersion-Emersion (.69), and Internalization (.80) subscales (Parham & Helms, 1981). Reliability for the total scale in this study was high, with a Cronbach's alpha coefficient of .93. Alpha coefficient reliability scores for the 5 subscales within this study are as follows: Pre-Encounter (.90), Post-Encounter (.78), Immersion (.82), Emersion (.79), and Internalization (.75).

*White Racial Identity Attitude Scale.* The White Racial Identity Attitude Scale ([WRIAS]; Helms & Carter, 1990) is a measure of racial identity in Whites, examining how White individuals' view themselves as White people in relation to other racial groups. The scale contains 60 items on a 5-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). Each item corresponds to one of the following 6 schemas of White racial identity attitudes: Contact ("I hardly ever think about what race I am"), Disintegration ("There is nothing I can do by myself to solve society's racial problems"), Reintegration ("I get angry when I think about how Whites have been treated by Blacks"), Pseudo-Independence ("I feel as comfortable around Blacks as I do around Whites"), Immersion-Emersion ("Sometimes I am not sure what I think or feel about Black people"), and Autonomy ("I feel comfortable in social settings in which there are no Black people"). The schema with the highest score is determined to be the participant's schema of racial identity development.

Validity data is somewhat controversial at this time (Behrens, 1997; Tokar & Swanson, 1991) due to differing opinions about the application of the methodologies that are used to examine the WRIAS (Helms, 1997). Despite this, the WRIAS remains the

predominant assessment of White racial identity attitudes (Middleton et al., 2005). An initial investigation of the WRIAS by Helms and Carter (1990) demonstrated internal consistency reliability coefficients (Cronbach's alphas) for the WRIAS Contact (.55), Disintegration (.77), Reintegration (.80), Pseudo-Independence (.71), and Autonomy (.67) subscales, respectively (Middleton et al., 2005). Alpha coefficient reliability scores for the 6 subscales in the present study are as follows: Contact (.37), Disintegration (.64), Reintegration (.80), Pseudo-Independence (.20), Immersion (.69), and Autonomy (.07).

*Participant Research Attitudes Scale.* The Participant Research Attitudes Scale (PRAS) was developed for the purposes of this study to assess the attitudes of participants towards research (see Appendix). Previous scales have been developed to assess the attitudes of graduate students in psychology towards statistics (Dauphinee, Schau, & Stevens, 1997). However, no measure has been developed to examine the attitudes of participants, specifically. The Attitudes towards Research Scale (Papanastasiou, 2005), a scale used to assess research attitudes among students in a research methods course was used to help construct the PRAS. The PRAS contains 32 items with a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). A high score on the PRAS indicates a negative attitude towards research and a low score indicates a more positive attitude towards research. Reliability for the total scale in this study demonstrated a Cronbach's alpha coefficient of .83.

*Demographic data.* A one page demographics form was included to collect background information including such variables such as gender, race, cultural/ethnic background, family's country of origin, and generation in the U.S.

### *Data Analysis*

*Factor analysis of research attitudes scale.* An exploratory factor analysis was conducted to examine the factor structure of the Participant Research Attitude Scale (PRAS). This analysis was used to establish subscale categories to address the hypothesis that Black and White participants will differ in their attitudes towards research across several subscales of the PRAS. Some of the items on the PRAS were positively worded and some were negatively worded. Positively worded items were reversed for the data analysis so that a higher score on the scale would reflect a more negative attitude towards research. The 32 items of the PRAS underwent a reliability calculation. High internal consistency was demonstrated with a Cronbach's alpha coefficient of .85. High split-half reliability was demonstrated with a Guttman's split half coefficient of .84. A principal components factor analysis was conducted with varimax rotation to reduce the items to factors. A scree plot was examined to determine the number of variables to extract, indicating extraction of 3 factors of the scale. The factor analysis with the extraction of 3 factors included a set of constructs that were easily interpreted.

The first factor accounted for 22.67% of the variance of the total scale, including 19 items. The 2 items with the highest loading on the rotated component matrix were "Research hasn't offered anything important to me" and "Research holds value in many settings." Therefore, this factor was named, "Research Importance." This factor is

interpreted as the degree to which the participant feels that research is important or valuable. Reliability for the Research Importance subscale demonstrated a Cronbach's alpha coefficient of .87.

The second factor accounted for 8.06% of the total variance of the scale and included 6 items. The 2 items with the highest loading were "I think many people have been abused by researchers in the past" and "Many people are exploited by current research practices." Therefore, this factor was named, "Researcher Abuse." This factor is interpreted as the extent to which the participant is suspicious of the researcher or feels that researchers are likely to be abusive or exploitative. Reliability for the Researcher Abuse subscale demonstrated a Cronbach's alpha coefficient of .70.

The third factor accounted for 7.65% of the total variance of the scale and included 7 items. The 2 items with the highest loading on this factor were "I would feel more comfortable taking part in research if I knew what the purpose was" and "I would take part in more research, but I just don't have the time." Based on these items of the component, this factor was named, "Participation Motivation." This factor is interpreted as the circumstances the participant identifies as increasing motivation to participate in research, including considerations such as time, compensation, and comfort with research. Reliability for the Participation Motivation subscale demonstrated a Cronbach's alpha coefficient of .19.

## RESULTS

### *Research Attitudes*

*Preliminary analysis of research attitudes.* In preliminary analyses of the dataset, few significant differences were found for demographic variables, including place of birth and gender. Upon examination of the differences in the Participant Research Attitudes Scale (PRAS), men ( $M = 16.59$ ,  $SD = 4.03$ ) demonstrated significantly more negative attitudes towards research importance than women ( $M = 14.70$ ,  $SD = 3.85$ ) on the Research Importance subscale  $t(106) = -2.18$ ,  $p < .05$ . Men ( $M = 16.60$ ,  $SD = 4.03$ ) also endorsed significantly more negative attitudes than women ( $M = 14.70$ ,  $SD = 3.85$ ) on the Researcher Abuse subscale  $t(106) = -2.50$ ,  $p < .05$ . Given the gender differences on these subscales in the preliminary analysis, gender was added into the MANOVA analysis to assess for main effects and interactions with race.

*Research attitudes and participant race.* A multivariate analysis of variance (MANOVA) was conducted to examine the hypothesis that Black participants will have more negative attitudes towards research than White participants. A two-by-two MANOVA was used in order to assess for main effects of gender in addition to race given the significant findings for gender in the preliminary analysis. Research attitudes were further specified to the 3 factors of Research Importance, Researcher Abuse, and Participation Motivation. Race and gender were entered as independent variables, and research attitude scores for the 3 factors were entered as the dependent variables. Main effects of gender and race were examined as well as a race x gender interaction. A MANOVA revealed significant main effects for race in regards to Research Importance

$F(1, 108) = 8.07, p < .005$ , Researcher Abuse  $F(1, 108) = 9.27, p = .003$ , and Participant Motivation  $F(1, 108) = 5.42, p = .022$ . Post hoc analysis of the means (see Table 1 for means and standard deviations) indicated that on the Research Importance factor, Black participants ( $M = 2.51, SD = .56$ ) had more negative attitudes than White participants ( $M = 2.14, SD = .56$ ). Additionally on the Researcher Abuse factor, Black participants ( $M = 2.86, SD = .70$ ) had more negative attitudes than White participants ( $M = 2.42, SD = .55$ ). In contrast, White participants ( $M = 22.23, SD = 2.90$ ) had more negative attitudes than Black participants ( $M = 20.77, SD = 4.07$ ) on the Participation Motivation factor. Observed power was high for these main effects for race with a value of .80 for Research Importance, .86 for Researcher Abuse at .86, and .64 for Participation Motivation.

**Table 1**

*Means and Standard Deviations of Participant Research Attitudes Scale (PRAS) for Black Women (n = 27), Black Men (n = 25), White Women (n = 35), and White Men (n = 26).*

	<u>Black Women</u>	<u>Black Men</u>	<u>White Women</u>	<u>White Men</u>
<i>Research Attitude Scale</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>
Research Importance	43.33 (10.67)	50.13 (10.80)	39.69 (8.44)	41.96 (12.99)
Researcher Abuse	15.75 (4.79)	18.04 (3.95)	13.97 (2.90)	15.31 (3.72)
Participation Motivation	20.25 (4.70)	21.30 (3.30)	21.63 (2.99)	23.04 (2.62)

Post hoc analysis using *t*-tests were conducted to assess the impact of interaction of gender and race. *T*-tests demonstrated no significant differences between Black and White women on the 3 research attitude subscales, although a trend was found  $t(1, 57) = 1.78, p = .081$ , with Black women ( $M = 15.75, SD = 4.79$ ) having slightly more negative attitudes than White women ( $M = 13.97, SD = 2.90$ ) in regards to Researcher Abuse. However, Black and White men differed significantly on all 3 subscales, including Research Importance, with Black men ( $M = 50.13, SD = 10.80$ ) having more negative attitudes than White men ( $M = 41.96, SD = 12.99$ ). Black men also had more negative attitudes ( $M = 18.04, SD = 3.95$ ) than White men ( $M = 15.31, SD = 3.72$ ) in regards to Researcher Abuse. Following the contrasting finding in the MANOVA, White men ( $M = 23.04, SD = 2.62$ ) had more negative attitudes than Black men ( $M = 21.30, SD = 3.30$ ) in regards to Participant Motivation. These findings supported the hypothesis that Black participants would hold more negative attitudes towards research, with the exception of

the subscale of Participation Motivation, for which White men held more negative attitudes than Black men.

### *Racial Identity Theory and Cultural Mistrust*

*Preliminary analysis of racial identity.* Preliminary analyses were conducted to examine the second hypothesis pertaining to racial identity attitudes and assess for the effect of demographic variables. Significant differences were found for gender. Among Black participants, more women ( $M = 53.40, SD = 6.54$ ) than men ( $M = 45.58, SD = 11.97$ ) endorsed Internalization attitudes on this subscale of the Black Racial Identity Attitude Scale (BRIAS),  $t(47) = 3.22, p < .005$ . This finding may be related to another gender difference found, which was that Black men ( $M = 196.84, SD = 52.41$ ) demonstrated higher levels of cultural mistrust than Black women ( $M = 153.63, SD = 52.56$ ),  $t(50) = -2.97, p < .005$ , which is less present in the Internalization stage. Interestingly, White participants had no significant differences based on gender on the independent and dependent variables in contrast to Black participants. Given the significant differences in gender in the preliminary analysis, gender was added as a covariate in the hierarchical regression analyses.

*Black racial identity, cultural mistrust, and attitudes towards research.* Hierarchical regressions were conducted to examine the third hypothesis that racial identity attitudes and cultural mistrust among Black participants will predict attitudes towards research. Hierarchical regression analyses were performed by entering the gender into the first step of the regression to remove variance contributed to the model by this variable. The 5 Black racial identity attitude subscale scores were entered into the second step of the equation along, and the 4 cultural mistrust subscale scores were entered into the third step of the regression. A total of 3 hierarchical regressions were performed, with Research Importance, Researcher Abuse, and Participation Motivation as the 3 respective criterion variables in these regressions (see Table 2 for zero-order correlations for the BRIAS, CMI, and PRAS subscales).

Significant results were demonstrated for the regression model that examined attitudes among Black participants towards the Research Importance subscale of the PRAS (see Table 3 for summary of hierarchical regressions for BRIAS, CMI, and PRAS subscales). Gender was significant at the first step,  $F(1, 45) = 4.19, p < .05$  and accounted for 8.7% of the variance. Black racial identity attitudes were significant at the second step,  $F(6, 45) = 2.96, p < .05$  and accounted for 22.6% of the variance beyond what was accounted for by gender. Black racial identity attitudes and cultural mistrust were significant at the third step,  $F(10, 45) = 3.22, p < .05$ , and accounted for 16.6% of the variance beyond what was accounted for by gender. The significant racial identity attitude predictor was the Internalization subscale ( $\beta = -.66, t = -2.28, p < .05$ ). The beta weight indicates that the more Internalization attitudes are endorsed, the more positive attitudes towards the importance of research are endorsed. The significant cultural mistrust predictor was the Interpersonal Relations subscale ( $\beta = -.72, t = -3.04, p < .05$ ) and the Business and Work subscale ( $\beta = .62, t = 2.20, p < .05$ ). The beta weights indicate that the more negative attitudes towards the importance of research are supported, the more cultural mistrust in business and work settings are supported, while less cultural

mistrust in interpersonal relations is endorsed. No significant findings were found for the regression examining how gender, racial identity attitudes, and cultural mistrust might predict attitudes on the Researcher Abuse and Participation Motivation subscale among Black participants. Observed power was high for this test with a value of 0.58.

**Table 2**

Zero-Order Correlations of Subscales for Black Racial Identity Attitude Scale (BRIAS) and Cultural Mistrust Inventory (CMI) with the Participant Research Attitude Scale (PRAS) Subscales for Black Participants ( $n = 52$ ).

<i>Predictor Variables</i>	<i>Research Attitude Subscales</i>		
	<i>Research Importance</i>	<i>Researcher Abuse</i>	<i>Participation Motivation</i>
<i>Black Racial Identity</i>			
Pre-Encounter	0.32	0.10	-0.23
Post-Encounter	0.38	0.27	-0.17
Immersion	0.24	0.23	-0.21
Emersion	-0.17	0.05	0.50
Internalization	-0.33*	-0.12	-0.02
<i>Cultural Mistrust</i>			
Politics and Law	0.40	0.21	0.11
Education and Training	0.13	0.24	-0.20
Interpersonal Relations	0.33**	0.26	-0.16
Business and Work	-0.01*	0.25	0.08

\* $p < .05$ , \*\* $p < .005$

**Table 3**

Summary of Significant Hierarchical Regression Analyses<sup>a</sup> for BRIAS and CMI variables predicting Criterion Variable of Research Importance<sup>a</sup> (Black participants;  $n = 52$ )

<i>Variables</i>	<i>B</i>	<i>SEB</i>	$\beta$
Step 1			
Gender	6.53	3.19	.30*
Step 2			
Gender	1.83	3.56	.08
Pre-Encounter	-.14	.24	-.17
Post-Encounter	.52	.50	.31
Immersion	.35	.30	.33
Emersion	-.09	.40	-.06
Internalization	-.45	.31	-.40
Step 3			
Gender	-.33	3.47	-.02
Pre-Encounter	.10	.23	.11
Post-Encounter	-.11	.50	-.07
Immersion	.35	.31	.33
Emersion	.26	.39	.18
Internalization	-.74	.33	-.66*
Politics and Law	-.10	.12	-.15
Education and Training	.25	.20	.23
Interpersonal Relations	-.65	.12	-.72**
Business and Work	.33	.15	.62*

*Note.*  $R^2(\text{Unique}) = .23$ ,  $R^2(\text{Total}) = .31$ ,  $R^2(\text{Shared}) = .08$  for Step 2,  $p < .05$ .

$R^2(\text{Unique}) = .17$ ,  $R^2(\text{Total}) = .48$ ,  $R^2(\text{Shared}) = .31$  for Step 3,  $p < .005$ .

<sup>a</sup>The criterion variables of Researcher Abuse and Participation Motivation were not significant in the hierarchical regression analyses.

\* $p < .05$ , \*\* $p < .005$

*White racial identity and attitudes towards research.* Hierarchical regressions were conducted to further examine the hypothesis that racial identity attitudes will predict attitudes towards research among White participants. Hierarchical regression analyses were performed by entering the separate steps of gender and racial identity attitudes as predictors into each model, respectively, to remove the variance contributed by gender. A total of 3 hierarchical regressions were performed to examine predictors for the subscales of the PRAS (see Table 4 for zero-order correlations for the WRIAS and PRAS subscales).

**Table 4**

Zero-Order Correlations of Subscales of the White Racial Identity Attitude Scale (WRIAS) with the Participant Research Attitude Scale (PRAS) Subscales for White Participants ( $n = 61$ )

<i>Predictor Variables</i>	<i>Research Attitude Subscales</i>		
	<i>Research Importance</i>	<i>Researcher Abuse</i>	<i>Participation Motivation</i>
<i>White Racial Identity</i>			
Contact	-0.15	-0.10	-0.21
Disintegration	0.45*	0.20	-0.23
Reintegration	0.36	-0.02	-0.18
Pseudo-Independence	-0.29	0.04	0.10
Immersion-Emersion	-0.08	0.18	-0.02
Autonomy	-0.33	0.13	-0.15

\* $p < .001$

The first regression for White participants examined attitudes towards the Research Importance subscale of the PRAS (see Table 5 for summary of hierarchical regression results for the WRIAS and PRAS subscales). White racial identity attitudes were significant at the first step  $F(6, 53) = 4.63, p < .001$ , and accounted for 34.9% of the variance beyond what was accounted for by gender. The significant predictor was the Disintegration subscale ( $\beta = .61, t = 3.44, p < .001$ ). The beta weights indicated that the more White participants endorsed Disintegration attitudes, the more negative attitudes towards the importance of research were supported. White racial identity attitudes were not significant in predicting the next 2 regressions in predicting attitudes towards Research Abuse and Participation Motivation. As demonstrated in the preliminary analysis, gender was not significant within hierarchical regressions to examine variables of White racial identity in relation to research attitudes. Observed power was high for this test with a value of 0.79.

**Table 5**

Summary of Significant Hierarchical Regression Analyses<sup>a</sup> for WRIAS variables predicting Criterion Variable of Research Importance<sup>a</sup> (White participants;  $n = 61$ )

<i>Variables</i>	<i>B</i>	<i>SEB</i>	<i>β</i>
Step 1			
Gender	2.28	2.75	.10
Step 2			
Contact	1.40	2.41	.07
Disintegration	1.29	.37	.61*
Reintegration	-.26	.32	-.14
Pseudo-Independence	-.56	.39	-.20
Immersion-Emersion	-.24	.30	-.13
Autonomy	-.54	.40	-.20

*Note.*  $R^2(Unique) = .35, R^2(Total) = .36, R^2(Shared) = .01$  for Step 2,  $p < .001$ .

<sup>a</sup>The criterion variables of Researcher Abuse and Participation Motivation were not significant in the hierarchical regression analyses.

\* $p < .001$

## DISCUSSION

There is a general lack of research exploring the impact of racial identity on attitudes towards research. Due to the history and current incidences of racism in research and in broader settings, filling gaps in this area is important. A heightened understanding is needed of the lack of participation among populations of color in research studies in addition to the development of strategies to make this research more culturally competent. Due to these factors, the purpose of this study was to examine racial differences among Black and White participants in their attitudes towards research and to explore within-group differences based on racial identity schemas that may predict attitudes towards research. Given the potential effect of cultural mistrust in the relationship between racial identity schemas and attitudes towards research, cultural mistrust was added as a variable for analysis in predicting attitudes towards research among Black participants.

### *Research Attitudes*

Exploratory factor analysis of the Participant Research Attitudes Scale (PRAS) confirmed the hypothesis that the factors would load on several subscales related to ethical concerns and value in research among participants. The several factors of Research Importance, Researcher Abuse, and Participation Motivation support previous study of research attitudes that produced categories of suspiciousness towards research, importance of information, and concern about confidentiality in the context of a research study (Singer, 1984). More negative attitudes towards research among Black men in exploratory portions of the data analysis reinforce previous findings in Singer's study. These negative attitudes may have resulted because Black men have frequently been the target of historical incidences of exploitative research practices, such as the Tuskegee syphilis study, and as a result may have developed more negative attitudes towards research. Additionally, an association of researchers with an authoritative, establishment position may explain results. Black men are often targeted by stereotypes and racism by individuals representing the dominant, White supremacy in instances of institutional discrimination (Whaley, 2002). In this study, Black men as a group may have endorsed more negative attitudes towards research due to connecting research with the oppressive mainstream. The trend indicating that Black women endorsed more concern towards abusive researchers also reflects the history of enslaved Black women's abuse by researchers in the gynecological field (Kapsalis, 1997) and potential resulting concerns about re-experiencing that abuse at the hands of future researchers.

An important finding that validated the first hypothesis was that Black participants would have more negative attitudes towards research than Whites. This was true for the Research Importance and Researcher Abuse factors of the PRAS, but not for Participant Motivation. The surprising finding that White men held more negative attitudes towards participating in a research study may be explained from a methodological perspective by the lowered reliability of the subscale within this sample. With lowered reliability of this subscale, potential differences in attitudes towards feeling motivated to participate in research may have led to erroneous findings. Further experimentation to assess the reliability of this subscale on larger participant samples

may further understanding of differences among racial groups on this research attitude construct. From a theoretical perspective, the motivation to participate in an experiment may be less tied to ethical concerns, which are of heightened importance to Black participants given instances of mistreatment in previous research. Therefore, Black men may have held less negative attitudes in this area. Additionally, the interpretation of this contradictory finding might be more appropriately described as White men endorsing relatively indifferent attitudes to research, supported by their more negative attitudes to participating in research. This indifference of White men to research may have occurred due to a conceptualization of the role - whether conscious or unconscious - as somewhat lacking in power, in contrast to more commonly held position of power within the hierarchical structure of U.S. society. Our results suggest that White men's views of research is in need of further research to clarify contradictorily negative attitudes in regards to motivation to participate in research.

### *Racial Identity Theory and Cultural Mistrust*

*Black racial identity, cultural mistrust, and attitudes towards research.* As expected, Black racial identity schemas and cultural mistrust predicted attitudes towards research. More specifically, Internalization attitudes and cultural mistrust were predictive of the Research Importance subscale of the PRAS, indicating that the more Internalization attitudes are endorsed, the more attitudes that research is not important emerged. Internalization attitudes are associated with individuals who begin to integrate an identity that is appreciative of Black culture while holding a heightened awareness of racism (Helms, 1990). This relationship may have occurred due to knowledge of previous injustices committed against Blacks that may lead to holding less value in information that is produced in historically White-dominated and abusive research settings.

Significant findings in the cultural mistrust analyses in the hierarchical regressions indicated that the more negative attitudes towards the importance of research are supported, the less cultural mistrust in interpersonal relations settings are perceived, although cultural mistrust in business and work settings increases. It is possible that Black participants who have higher cultural mistrust within business and work settings may have higher mistrust in research settings, particularly given the similar nature of the environments. A less predictable finding was that high levels of cultural mistrust in the Interpersonal Relations subscale were predictive of more positive attitudes towards the importance of research. This may have occurred due to the low reliability of this subscale within this study and others (Whaley, 2002). Additionally, while research settings often include developing a relationship between a researcher and participant, participants may traditionally distinguish between interpersonal relationships and research settings. Thus, Black participants in this study may have emphasized the trustworthiness of interpersonal relationships over the business and work settings associated with the research environment, where Black participants have encountered numerous violations of trust.

*White racial identity and attitudes towards research.* As expected, White racial identity schemas predicted attitudes towards research and specifically indicated that the more White participants held Disintegration attitudes, the more negative attitudes towards the importance of research were endorsed. Disintegration attitudes connote an

emotionally conflictual state in which one begins to gain awareness of racial injustices, yet one also desires to hold on to the privileges associated with being White (Helms, 1990). White participants that fell within this bracket may have had more negative attitudes towards the importance of research given their burgeoning knowledge of institutional racial injustices. This relationship could also be interpreted as appealing to the side of the Disintegration schema that seeks to repress this developing awareness and avoid information that may be gathered in research settings, particularly around issues of race due to the potential implications for making self-change in this area.

### *Implications for Research Practices*

The link between racial identity, cultural mistrust, and attitudes towards research suggests the importance of taking into consideration participant racial identity attitudes when interpreting research findings among various populations. In general, Black participants may have higher mistrust and more negative attitudes towards research in the areas of research importance and in perceiving a researcher as trustworthy. An important limitation to be considered in interpreting these results was the focus on Black and White participants. Many researchers have advocated for a shift towards understanding groups outside the Black-White dichotomy (Kohatsu et al., 2000; Mizock & Harkins, 2007; Parker & Lynn, 2002). While a significant portion of critical racial issues are centered on tension between Black and White racial groups, racial issues affect all groups and require further study in order to address the oppression of other racial groups in addition to multiracial identities (Coleman & Carter, 2007; Mizock, Wells, & Harkins, 2007; Shpungin & Lyubansky, 2006; Watt, 1999). The use of a college student population may also limit the generalizability of the results to other populations. More study is needed of participants outside of college populations and Black and White racial groups.

Understanding these findings in a context of a shortage of literature inclusive of participants of color suggests the importance of outreach. Additional research examining the underlying developmental mechanisms to the creation and maintenance of racial identity attitudes is required (Burrow, Tubman, & Montgomery, 2006) and would enhance understanding of this construct in relation to research attitudes.

Qualitative research can be useful to enrich the complex data regarding racial consciousness. The quantitative methodology in this study may have restricted the ability to explore results in more depth, especially regarding the complex nature of topics of race and cultural mistrust. Including qualitative measures into the research design of multicultural study may allow the additional flexibility needed to open up dialogue with people whose voices have so often been silenced in scholarship (Cox, 2004; Pinro & McKay, 2006). Research is in progress to follow-up on this study with exploration of the variables of racial identity and research attitudes utilizing a qualitative approach.

The racial visibility of the White researcher in addition to a Black researcher may have posed a potential threat of instrumentation to internal validity influencing participant responses out of social desirability. Although the potential threats of social desirability have been ruled out for the CMI (Terrell & Terrell, 1981), they may have occurred for other variables measured within this study. It is possible that race matching

the researcher to the participants may have reduced threats to instrumentation. Further research is underway to follow-up on these results and examine in greater detail the differential effects of a Black researcher versus a White researcher on collecting data with these populations. The use of data collection via a computer distributed survey may assist with potential problems resulting from researcher race. However, limitations of computer use should be taken into consideration prior to implementing this method, including threats to population generalization for those who have less comfort with or access to computers.

These findings have important implications for the research team. The history of racism in psychological and health research requires the revision of research methodologies to avoid reproducing racial bias. Members of the research process should be educated regarding the history of racism in research and its association with cultural mistrust of experimentation among people of color (St. Louis & Liem, 2005). It is essential to take care to avoid reenacting historical events of exploitation in investigations of issues of race and ethnicity in psychological research. Education is needed on the history of racism within research and the impact of this history for participants who may be more racially aware. Additionally, researchers require further education on the impact racial difference and cultural mistrust on research attitudes in order to enhance cultural competency in future research practices. It is the duty of members of the field of psychology to avoid perpetuation of racial bias in research practices so that future research is sensitive and empowering.

## REFERENCES

- Behrens, J. T. (1997). Does the White Racial Identity Attitude Scale measure racial identity? *Journal of Counseling Psychology, 44*(1), 3–12.
- Bieschke, K. J., Bishop, R. M., & Garcia, V. L. (1996). The utility of the research self-efficacy scale. *Journal of Career Assessment, 4*(1), 59-75.
- Burrow, A. L., Tubman, J. G. & Montgomery, M. J. (2006). Racial identity: Towards an integrated developmental psychological literature. *Identity: An International Journal of Theory and Research, 6*(4), 317-339.
- Carter, R. T., Helms, J. E., & Juby, H. L. (2004). The relationship between racism and racial identity for White Americans. *Journal of Multicultural Counseling and Development, 32*(1), 2-17.
- Carter, R. T., Williams, B., Juby, H. L., & Buckley, T. R. (2005). Racial identity as a mediator of the relationship between gender role conflict and severity of psychological symptoms in Black, Latino, and Asian men. *Sex Roles, 53*(7/8), 473-486.
- Coleman, V. H., & Carter, M. M. (2007). Bi-racial self-identification: Impact on trait anxiety, social anxiety, and depression. *Identity: An International Journal of Theory and Research, 7*(2), 103-114.
- Constantine, M. G., Warren, A. K., & Miville, M. L. (2005). White racial identity dyadic interactions in supervision: Implications for supervisees' multicultural counseling competence. *Journal of Counseling Psychology, 52*(4), 490-496.
- Cort, M. A. (2004). Cultural mistrust and use of hospice care: Challenges and remedies.

- Journal of Palliative Medicine*, 7(1), 63-71.
- Cox, T. C., Jr. (2004). Problems with research by organizational scholars on issues of race and ethnicity. *The Journal of Applied Behavioral Science*, 40(2), 124-145.
- Dauphinee, T. L., Schau, C., & Stevens, J. J. (1997). Survey of attitudes towards statistics: Factor structure and factorial invariance for women and men. *Structural Equation Modeling*, 4(2), 129-141.
- Delgado-Romero, E.A., Galván, N., Maschino, P., & Rowland, M. (2005). Race and ethnicity in empirical counseling and counseling psychology research: A 10-year review. *The Counseling Psychologist*, 33(4), 419-448.
- Forester, M., Kahn, J. H., & Hesson-McInnis, M. S. (2004). Factor structures of three measures of research self-efficacy. *Journal of Career Assessment*, 12(1), 3-16.
- Gamble, V. N. (1997). Under the shadow of Tuskegee: African Americans and health care. *American Journal of Public Health*, 87(11), 1773-1778.
- Gushue, G. V., & Carter, R. T. (2000). Remembering race: White racial identity attitudes and two aspects of social memory. *Journal of Counseling Psychology*, 47(2), 199-210.
- Helms, J. E. (Ed.). (1990). *African American and White racial identity*. New York: Greenwood Press.
- Helms, J. E. (1995). An update of Helms's White and People of Color racial identity models. In J. G. Ponterotto, J. M. Casas, L. A. Suzuki, & C. M. Alexander (Eds.), *Handbook of multicultural counseling* (pp. 181-198). Thousand Oaks, CA: Sage.
- Helms, J. E., & Carter, R. T. (1991). Relationships of White and Black racial identity attitudes and demographic similarity to counselor preferences. *Journal of Counseling Psychology*, 38(4), 446-457.
- Kapsalis, T. (1997). *Public privates: Performing gynecology from both ends of the speculum*. Durham, NC: Duke University Press.
- Kohatsu, E. L., Dulay, M., Lam, C., Concepcion, W., Perez, P., Lopez, C., & Euler, J. (2000). Using racial identity theory to explore racial mistrust and interracial contact among Asian Americans. *Journal of Counseling & Development*, 78(3), 334-341.
- Lemon, R. L., & Waehler, C. A. (1996). A test of stability and construct validity of the Black Racial Identity Scale, Form B (RIAS-B) and the White Racial Identity Attitude Scale (WRIAS). *Measurement and Evaluation in Counseling and Development*, 29(2), 77-85.
- Middleton, R. A., Stadler, H. A., Simpson, C., Guo, Y., Brown, M. J., Crow, G., Schuck, K., Yared, A., & Lazarte, A. A. (2005). Mental health practitioners: The relationship between White racial identity attitudes and self-reported multicultural counseling competencies. *Journal of Counseling & Development*, 83(4), 444-456.
- Mitchell, S. L., & Dell, D. M. (1992). The relationship between Black students' racial identity attitude and participation in campus organizations. *Journal of College Student Development*, 33(1), 39-43.
- Mizock, L., & Harkins, D. (2007, May). The relationship between a White researcher and Participants of Color: The impact of race on the research process. Paper presentation. *Hawaii International Conference of the Social Sciences*. Honolulu, HI.

- Mizock, L., Wells, Y. & Harkins, D. (2007, July). Negotiating barriers: Narrating the challenges of multicultural research. *5<sup>th</sup> Biennial Conference of the International Society of Critical Health Psychology (ISCHP)*. Paper presentation. Boston, MA.
- Nickerson, K. J., Helms, J. E., & Terrell, F. (1994). Cultural mistrust, opinions about mental illness, and Black students' attitudes toward seeking psychological help from White counselors. *Journal of Counseling Psychology, 41*(3), 378-385.
- Papanastasiou, E. C. (2005). Factor structure of the "Attitudes Towards Research Scale." *Statistics Education Research Journal, 4*(1), 12-26.
- Parker, L., & Lynn, M. (2002). What's race got to do with it? Critical race theory's conflicts with and connections to qualitative research methodology and epistemology. *Qualitative Inquiry, 8*(1), 7-22.
- Pinro, R. M., & McKay, M. M. (2006). A mixed-method analysis of African-American women's attendance at an HIV prevention intervention. *Journal of Community Psychology, 34*(5), 601-616.
- Pope-Davis, D. B., Lie, W. M., Ledesma-Jones, S., & Nevitt, J. (2000). African American acculturation and Black racial identity: A preliminary investigation. *Journal of Multicultural Counseling and Development, 28*(2), 98-112.
- Quinland, D., Jackson, L., Alavez, A., Obasaju, M., Gorham, K., & Wasim, F. (October, 2005). Ethnic focus or ethnic convenience: An examination of APA clinical journals from 1990-2004. *Diversity Challenge Conference*, Boston College. Boston, MA.
- Ridley, C. R. (1984). Clinical treatment of the nondisclosing Black client: A therapeutic paradox. *American Psychologist, 39*(11), 1234-1244.
- Shpungin, E., & Lyubansky, M. (2006). Navigating social class roles in community research. *American Journal of Community Psychology, 27*(3/4), 227-246.
- Singer, E. (1984). Public reactions to some ethical issues of social research: Attitudes and behavior. *The Journal of Consumer Research, 11*(1), 501-509.
- St. Louis, G. R., & Liem, J. H. (2005). Ego identity, ethnic identity, and the psychosocial well-being of ethnic minority and majority college students. *Identity: An International Journal of Theory and Research, 5*(3), 227-246.
- Terrell, F., & Terrell, S. L. (1981). An inventory to measure cultural mistrust among Blacks. *Western Journal of African American Studies, 5*(3), 180-184.
- Tokar, D. M., & Swanson, J. L. (1991). An investigation of the validity of Helms's (1984) model of White racial identity development. *Journal of Counseling Psychology, 38*(3), 296-301.
- Watkins, C. E., Terrell, F., Miller, F. S., & Terrell, S. L. (1989). Cultural mistrust and its effects on expectational variables in Black client-White counselor relationships. *Journal of Counseling Psychology, 36*(4), 447-450.
- Watt, S. K. (1999). The story between the lines: A thematic discussion of the experience of racism. *Journal of Counseling and Development, 77*(1), 54-61.
- Whaley, A. L. (2002). Psychometric analysis of the cultural mistrust inventory with a Black psychiatric inpatient sample. *Journal of Clinical Psychology, 58*(4), 383-396.

## APPENDIX

### Participant Research Attitude Survey

This survey is designed to measure attitudes to participating in research. It is not a test, so there are no right or wrong answers. Please answer each item as accurately and carefully as you can by placing the following numbers next to each item.

- 1 = Strongly disagree
- 2 = Disagree
- 3 = Neither agree nor disagree
- 4 = Agree
- 5 = Strongly Agree

- \_\_\_\_\_ 1. Participating in research is important to me.
- \_\_\_\_\_ 2. I would feel suspicious of the intentions of a researcher.
- \_\_\_\_\_ 3. I would take part in a research study if I received something for my time.
- \_\_\_\_\_ 4. I think many people have been abused by researchers in the past.
- \_\_\_\_\_ 5. Many important discoveries have been made through research.
- \_\_\_\_\_ 6. Researchers don't care about the well-being of the people in the research.
- \_\_\_\_\_ 7. Important knowledge can only be advanced through research.
- \_\_\_\_\_ 8. Research is an important way of discovering things about the world.
- \_\_\_\_\_ 9. I would not feel comfortable disclosing aspects of my personal life in a research study, even if the information was kept confidential.
- \_\_\_\_\_ 10. Research is important to my career.
- \_\_\_\_\_ 11. Being part of a research study would be a waste of my time.
- \_\_\_\_\_ 12. I would take part in more research, but I just don't have the time.
- \_\_\_\_\_ 13. Students should learn how to do research.
- \_\_\_\_\_ 14. I don't really have a problem with research, I just don't care about it that much.
- \_\_\_\_\_ 15. Students should learn about important research studies.
- \_\_\_\_\_ 16. I don't mind taking part in research, but I often feel left out of the process.
- \_\_\_\_\_ 17. I would participate in research if it was done by someone I know.
- \_\_\_\_\_ 18. I would participate in research if it was done by someone in my community.
- \_\_\_\_\_ 19. I can apply research to my everyday life.
- \_\_\_\_\_ 20. I would feel more comfortable taking part in research if I knew what the purpose was.
- \_\_\_\_\_ 21. Many people are exploited by current research practices.
- \_\_\_\_\_ 22. Research has offered many important things to my community.
- \_\_\_\_\_ 23. Research hasn't offered anything important to me.
- \_\_\_\_\_ 24. Research holds value in many different settings.
- \_\_\_\_\_ 25. Research hasn't offered anything important to my community.
- \_\_\_\_\_ 26. Research is only useful in scientific settings.
- \_\_\_\_\_ 27. I find myself interested in the research that I hear about.
- \_\_\_\_\_ 28. I don't understand much about research.
- \_\_\_\_\_ 29. Researchers generally take great care in the way people are handled in a study.
- \_\_\_\_\_ 30. Research bores me.
- \_\_\_\_\_ 31. I have trust towards researchers running a study.
- \_\_\_\_\_ 32. I would not take part in research if I was not compensated for my time.