Medical Mistrust among the Intersection of Race and Gender of Black Individuals as

Moderated by Patient-Centered Care

by

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ABSTRACT

Every year an alarming number of deaths for the Black community are a result of disparities and inequalities in health outcomes. While literature has largely focused on social determinants of heath (e.g., economic, environmental, biological, and behavioral structures) as contributing factors to disparate health outcomes for Black people, literature on medical mistrust has been on the rise. Medical mistrust is defined as the belief that health care entities and providers act against a patient's best interest and well-being, and is associated with lower rates of service utilization, inadequate management of health conditions, lower levels of involvement in research, and treatment nonadherence. Only recently has patient-centered care been examined as a construct that may reduce the negative effects of medical mistrust. This study examined Black identifying patients (N = 174) across gender and their reported levels of medical mistrust, and if the perception of a patient-centered health care environment would moderate the association. The findings indicated that Black females, compared to Black males, endorsed higher levels of medical mistrust that may be indicative of intersectional influences. While there were significant effects of gender and perceived patient-centered care on medical mistrust, perceived patient-centered care was not found to significantly moderate the relationship between gender identity and medical mistrust. This may be indicative of the varying degrees of medical maladies that may be stronger determinants of perceived patient-centered care, despite gender or other demographic characteristics. Implications for practice and future research on the intersectional influences on medical mistrust and perceived patient-centered care in the Black communities are discussed.

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CHAPTER 1

INTRODUCTION

It is estimated that disparities and inequalities in health, among People of Color, result in 83,000 needless deaths every year (Matthew, 2018). These disparities pose the greatest risk for minorities, marginalized, and low-income individuals, and are a growing public health concern (Sommers, 2017). According to Alvidrez et al. (2019), health disparities can be defined as "a health difference, on the basis of one or more health outcomes, that adversely affects disadvantaged populations" (p.S16). Furthermore, health disparities were highlighted for communities of Color due to the disproportional effects of COVID-19 (Mein 2020). In certain U.S. regions, COVID-19 related deaths were twice as high for the Black community as their overall U.S. population (Chowkwanyun & Reed, 2020). Despite strides in research to minimize the gaps, disparities still persist (Alvidrez et al., 2019; Gkiouleka et al., 2018; Howell, 2018; Jaiswal & Halkitis, 2019; Matthew, 2018; Sommers, 2017). While certain social determinants (e.g., socioeconomic status, access to healthcare, income, political structures, biological factors, geographic location) are known to contribute to growing disparities and inequalities in health (Howell, 2018), racism has recently been identified as a substantial contributor. Racism is defined as a system that predetermines opportunities for individuals based on physical features that creates advantages for some and disadvantages for others, and negatively impacts health for racial and ethnic minority groups (Centers for Disease Control and Prevention, 2021).

The rise of medical mistrust literature and the link to health disparities among Black people has gained traction over the past few decades (Klonoff, 2009). While the

explanation for the presence medical mistrust may vary from person to person, its origin is rooted in the historical injustices and marginalization of the Black community and is associated with disparities in health (Cuevas et al., 2019). For example, literature has shown negative associations between medical mistrust and dissatisfaction with care, avoidance of and decreased service utilization, and treatment nonadherence (Cuevas et al., 2019; Hammond, 2010; Tekeste, 2018; Klonoff, 2009; Shelton et al., 2010; Vina et al., 2015). While medical mistrust research has commonly examined between group differences (e.g., Black community versus White community), very little research has examined medical mistrust and within group differences among the Black community, such as how one's gender identity may intersect with Black racial identity to yield outcomes associated with medical mistrust. Gender identity is an individual's sense of their own gender, may be concordant or differ from sex assigned at birth, and may not fall within the gender binary (Dichter & Ogden, 2019).

Given the epidemic of health disparities and inequalities within the Black community, the goal of the present study was to examine how gender differences among Black identifying people may be associated with levels of medical mistrust, and further how patient-centered care may moderate the association between gender identity and medical mistrust. Patient-centered care describes care from physicians that conveys empathy, respect to an individual during treatment, responsiveness to the needs of the patient, collaborative relationships, and patient-guided decision making (Cuevas et al., 2019; Muntinga et al., 2014; Ree et al., 2019). Research on health outcomes for the Black community has shown that increasing empathy within providers was associated with more satisfaction with care and treatment adherence, and better health outcomes

(Klonoff, 2009; Muntinga et al., 2014). As such, data from the present study may have the ability to examine patient-centered care as a moderator to medical mistrust among Black patients.

Race

The effects of the institution of slavery are unfathomable, yet remain entrenched within all U.S. structures (Matthew, 2018). The ending of "chattel" slavery did not stop injustices against Black people and according to Alexander (2020), slavery was perpetuated through alternative forms. The implementation of Black Codes, sharecropping, mass incarceration, and convict leasing enabled Southerner's to regain autonomy over Black people for further exploitation of their labor (DeGruy, 2017), and once outlawed Jim Crow Laws were enacted (Alexander, 2020). These laws preserved separate, yet unequal, segregation in all domains of life until the Civil Rights Era (Alexander, 2020). Since the Civil Rights Era to present, countless court cases, social movements, educational resources, and other endeavors have been implemented to battle racial injustice. Despite progress in racial equality, racism and disparities persist within political and corporate leadership, socioeconomic status, housing, education, the criminal justice system, and health care for Black people (Alexander, 2020; DeGruy, 2017; Gordils et al., 2020; Henderson et al., 2019; Matthew, 2018; Shelton et al., 2010).

Race still informs the everyday institutional discrimination that the Black community experiences, specifically within the health care institution (Matthew, 2018). Research has demonstrated that providers hold stereotypes based on race, which influences their clinical decision making (Paradies et al., 2014; Peek et al., 2010), and

that Black individuals receive outdated treatment modalities, delayed treatment, lower quality of care for screening and testing, and dismissiveness of their pain compared to non-Black individuals (Klonoff, 2009). Given the long-standing history of discrimination and injustices committed against Black people, their perception of discrimination in health care should not come as a surprise. For example, literature has shown that Black patients reported race/ethnicity-based discrimination more frequently within healthcare encounters (Vina et al., 2015). Additionally, perceived discrimination has been associated with higher rates of medical mistrust, lower rates of service utilization, and higher rates of treatment nonadherence (Hammond, 2010; Peak et al., 2010). Hence, the negative consequences of perceived discrimination and medical mistrust among Black patients further emphasizes the necessity to examine these associations. Moreover, given discrimination based on gender is prevalent within the U.S. (Kelly & Kerry 2020), it may be important to examine gender identity and medical mistrust as well.

Gender Identity

Gender identity is an individual's sense of their own gender and may be concordant or differ from sex assigned at birth and may not fall within the gender binary (Dichter & Ogden, 2019). How one identifies reflects their social positioning within U.S. structures thus influencing one's lived reality. Favorable social positioning, influenced by gender norms/expectations and socialized gender roles, is not easily—or sometimes ever—attainable for gender minorities, specifically women and gender nonconforming individuals or those "whose gender identity differs from the gender norms associated with their sex assigned at birth." (Thompson, 2016, p.205).

Considering the historical timeline of the U.S., women's rights is a relatively new concept. Women first received the right to vote 100 years ago, employment opportunities 60 years ago, the right to divorce their spouses 50 years ago, autonomy over their bodies for pregnancy-related decision making 45 years ago, the ability to own their own homes 44 years ago, and it has been just 40 years since the first woman held a position within the government to influence public policy (Gender Equality Timeline, 2019). Presently, the Equal Rights Amendment (ERA) has yet to be ratified. While this timeline accounts for gender, it does not account for the intersection of race and gender. Intersections of race and gender, which have been examined more recently, further highlight and account for the additional discrimination that Black women may have experienced during this time (Santovec, 2017). Despite progress, women remain disadvantaged by patriarchal structures, marginalization, and violence (Kelly & Kerry, 2020). Gaps remain for women, when compared to men, in wealth, economic opportunity, employment, education within STEM, political empowerment, and certain health outcomes such as disordered eating, sexually transmitted diseases, physical abuse, intimate partner violence (IPV), and sexual abuse (Kelly & Kerry, 2020).

Gender discrimination is associated with poorer physical and mental health, which women experience at higher rates compared to men (Collins et al., 2015; D'Avanzo et al., 2019; Kelly & Kerry, 2020). Consequently, perceived discrimination has been associated with higher rates of medical mistrust, lower rates of service utilization, and higher rates of treatment nonadherence (Hammond, 2010; Peak et al., 2010). Moreover, literature on medical mistrust has largely focused on racial differences rather than gendered ones or the intersect of racial and gendered ones (Gkiouleka et al., 2018).

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Given that women may experience higher rates of marginalization and discrimination, when factoring in gender, it is important to examine how the intersection of race and gender among Black patients may inform literature on medical mistrust.

Intersectionality

Intersectionality was initially coined by Dr. Kimberlé Crenshaw as a way for Black women to understand their disadvantages in a way that did not see race and gender as mutually exclusive categories (Santovec, 2017). Intersectionality posits that "social categories like gender, race, class, or sexuality are mutually constructed and underlie intersecting systems of power that foster social formations of complex social inequalities" (p.93), whereas the inequalities are historically based (Gkiouleka et al., 2018). No social category, within a measurable way, bears a greater significance in creating the phenomenological reality of cultural identity. Instead, a system of interwoven social categories (e.g., race, gender,) shapes the lives of individuals and groups in a way that renders visible the marginalization axes individuals may experience, which are contingent on socio-historical contexts (Gkiouleka et al., 2018). Importantly, intersectionality, as viewed as a theoretical tool, examines the intersects of our social categories, such as race and gender, and the consequences of the privileges and disadvantages of those intersects which are reflective of the power systems individuals have been stratified within (Harari & Lee, 2021). While medical mistrust literature has focused on between group differences (Vina et al., 2015), inspecting its significance in regard to Black identifying individuals and their gender identity (within group

differences) may further highlight the multitude of factors influencing disparities and inequalities in health among this community.

Medical Mistrust

Medical mistrust literature has increased as a response to the health disparities epidemic, as it is believed to mediate a substantial portion of the gaps seen (Shelton et al., 2010). While medical mistrust is typically thought of as the absence of trust in health care/medical institutions (e.g., hospitals, health offices) and medical professionals (e.g., physicians), this concept more appropriately aligns with the belief that these entities and professionals act "against one's [patient's] best interest or well-being" (Jaiswal & Halkitis, 2019, p. 80). For Black individuals, such mistrust reflects a level of self-preservation and serves as a protective measure given the injustices and differential treatment they have historically experienced (Jaiswal & Halkitis, 2019; Tekeste, 2018). Nonetheless, negative health outcomes of medical mistrust such as lower rates of service utilization, inadequate management of health conditions, lower levels of involvement in research—therefore reducing knowledge advancement— and treatment nonadherence serve as risk factors exacerbating the health disparities gap (Cuevas et al., 2019; Hammond, 2010; Tekeste, 2018; Klonoff, 2009; Shelton et al., 2010; Vina et al., 2015).

Presently very little research exists examining levels of medical mistrust among Black identifying patients and the intersection of gender identity. However, a notable exception investigated gender differences among African Americans and medical mistrust in regard to colorectal cancer (CRC) screenings. No statistically significant differences were found based on the intersection gender and race and CRC screenings. (Adams et al.,

2017). Nonetheless, there has been an increasing amount of research that points to perceived person-centered health care as a buffer to medical mistrust (Klonoff, 2009). Given these implications, examining associations between race and gender, and the moderation of perceived patient-centered care, may significantly inform medical mistrust literature.

Patient-Centered Care

Research currently supports the effects of patient-centered care on health outcomes, as health care entities have moved towards this model as the new standard for patient-physician interactions (Cuevas et al., 2019). Patient centered care, used synonymously with person-centered or client-centered, describes care from physicians that conveys empathy, respect to an individual during treatment, responsiveness to the needs of the patient, collaborative relationship, and patient-guided decision making (Cuevas et al., 2019; Hammond, 2010; Muntinga et al., 2014; Ree et al., 2019). Medical mistrust, most commonly reported among Black patients, results in avoidance of care, decreased physician visits, and treatment nonadherence (Hammond, 2010; Shelton et al., 2010). Improving patient-centered interactions among physicians may decrease the effects of medical mistrust. Research has shown that increasing empathy within providers led to more satisfaction with care and treatment adherence, and better health outcomes (Klonoff, 2009; Muntinga et al., 2014). Additionally, when patients are treated as equals, they are more likely to collaborate and ask questions regarding their health (Cuevas et al., 2019). Based on this, it was hypothesized that higher perceptions of patient-centered care would moderate medical mistrust. Such that as perceived patient-centered care was higher, medical mistrust would be lower.

Present Study

To date, research on health disparities has examined different social categories such as SES, access to healthcare, biological factors, and geographic location as determinates of health outcomes (Gkiouleka et al., 2018; Howell, 2018; Klonoff, 2009; Shelton et al., 2010;). Studies have found that racial/ethnic and gender minorities experience disparities and inequalities in health and bear higher rates of mortality (Collins et al., 2015; Gkiouleka et al., 2018; Lariscy, 2017). Moreover, research on medical mistrust highlights the presence of such stark disparities and inequalities; specifically demonstrating the association between higher levels of medical mistrust and lower rates of service utilization, inadequate management of health conditions, and treatment nonadherence (Hammond, 2010). However, very little research exists that examines how the intersection of race and gender may be associated with levels of medical mistrust.

The primary goal of the present study was to examine the associations between race and gender and levels of medical mistrust in a sample of one hundred and 74 self-identified Black participants. It was hypothesized that participants who identified as Black and female would report higher levels of medical mistrust (H_1). Additionally, based on the literature that suggests perceived patient-centered interactions with medical providers is associated with lower levels of medical mistrust (Cuevas et al., 2019), the study sought to examine the second hypothesis (H_2) that higher perceptions of patient-centered interactions would moderate the positive association between medical mistrust and the intersection of race and gender identity, such that higher levels of perceived

patient-centered care would weaken the positive association between medical mistrust

and the intersection of race and gender identity.

CHAPTER 2

METHODS

Participants and Recruitment

Participants were recruited using various methods, such as referrals and snowball sampling. Information regarding the study was distributed through emails and digital flyers with the study's QR code, sent out via social media to online Black community support groups (e.g., Being Black in Phoenix Facebook group and Black People of Phoenix Facebook group). Snowball sampling was utilized by asking participants to disseminate the study's information to other individuals within their social networks. Participants had to meet the following inclusion criteria in order to participate: 1) 18 years of age or older, and 2) identify as Black/African-American or multiracial in which one of the identifying races is Black/ African-American.

Two hundred and 47 participants met eligibility criteria and completed the survey. The final sample included 174 participants. The mean age of all participants was 34.82 years ($SD = 11.75$), with the mean ages for females being 33.97 years ($SD = 11.85$), and 35.98 ($SD = 10.90$) for males. The majority of the participants identified as female at 64.4% ($n = 112$), followed by male at 33.3% ($n = 58$), then gender fluid at 1.1% ($n = 2$), and finally transgender and 'other' both at 0.6% ($n = 1$). Data showed that 48.9% ($n = 85$) of participants endorsed being multiracial; whereas 51.1% ($n = 89$) identified as being Black/ African-American. Overall, being highly educated was a characteristic of the sample. The percentage of participants reporting a professional program, some college, an undergraduate, or a graduate degree were at 75.2% ($n = 131$). Approximately 50.0% (n

= 87) of participants reported a yearly individual income of $49,999 or less, 25.9% ($n$ = 45) reported a yearly individual income of $50,000 - $74,999, and 24.2% ($n$ = 42) reported a yearly individual income of over $75,000. Additionally, 85.6% (n = 149) of participants endorsed having access to affordable care, 9.8% (n = 17) endorsed not having access to affordable care, and 4.6% (n = 8) indicated that they were unsure. Demographic information for the sample can be found in Table 1.

Procedures

Individuals interested in participating in the survey received access to an anonymous Qualtrics link included in the social media posts. Upon clicking the link, participants were taken to the informed consent (see Appendix A). After consenting to participation, participants were screened to verify they met the study's inclusion criteria. Eligible participants were automatically directed to the study which was a single Qualtrics survey that combined the demographic questions, medical mistrust and patient-centeredness measures. Participants also had the option to enter into a raffle for a chance to win one of 10, $15 Amazon gift cards. The study's design approximated 15 minutes for completion; however, on average, participation completed the survey in approximately seven minutes. Participants that did not meet eligibility were directed to a screen that exited them from the survey and thanked them for their interest.

Measures

Screening. Individuals interested in the study completed an initial screening questionnaire to determine their eligibility as participants (see Appendix B).

Demographics. Participants answered 10 questions detailing various demographic characteristics such as age, race/ethnicity, sexual orientation, gender, education, income, and health care interactions (see Appendix C).

Medical mistrust. Medical mistrust was assessed using the Group-Based Medical Mistrust Scale (GBMMS; Valera et al., 2016, see Appendix D), which is designed to measure medical mistrust in racial and ethnic groups. Furthermore, the GBMMS assesses past experiences of racial discrimination, suspicions of health care personnel, and perceived support of doctors and healthcare workers. The GBMMS is a 12-item questionnaire utilizing a 5-point Likert-type scale key, in which responses range from (1) *strongly disagree* to (5) *strongly agree*. Similar to Tekeste et al. (2018), the GBMMS scale was modified to state "Black people" rather than "people of my ethnic group" to focus on race-based medical mistrust for this study. Sample items were as follows: "Black people receive the same medical care from doctors and health care workers as people from other groups", "I have personally been treated poorly or unfairly by doctors or health care workers because of my race", and "In most hospitals, people of different racial groups receive the same kind of care". Higher mean scores on this scale indicated higher levels of medical mistrust with a potential range of 1.0-5.0. The GBMMS was originally validated in a group of Black and Latina women with a reported Cronbach's alpha of .83 (Tekeste, Hull, Dovidio et al., 2018), and again in urban Black men, and Black and White men with prostate cancer in which a =.87-.88 (Valera et al., 2016).

Patient-centeredness. The English Person-Centered Climate Questionnaire–Patient version (PCQ-P; Edvardsson, 2008; see Appendix D) was utilized to measure patient-centered environments and interactions with medical providers. As a self-report

measure, the PCQ-P assesses the degree to which an individual perceives their health care setting as being person-centered. This 17-item questionnaire contains statements regarding the climate and utilizes a 6-point Likert scale in which responses range from 1= *no I disagree completely* to 6 = *yes, I agree completely*. Sample items included statements describing health care settings such as "A place where I rely on receiving the best care", "A place where I feel in safe hands", and "A place where the staff have time for the patients". The items were sum scored where higher scores indicated a higher perception of a person-centered environment. The original Swedish version demonstrated good reliability for the entire scale with a reported Cronbach's alpha of .93, and for the three subscales that emerged: Safety = 0.94, Everydayness = 0.82, and Generosity = 0.64 (Evardsson, 2008). Evardsson (2008) translated the questionnaire into English from its original Swedish version and adapted it for Australian surgical patients in a hospital setting and found good reliability $a = .90$.

Data Analysis

Data was initially screened for missing values, randomness of responses, and completion under 100 seconds. Randomness of responses were conducted utilizing a non-parametric test. Through conducting a chi-square test it was determined that only the surveys completed under 100 seconds reflected randomness of responses and were not thoughtfully completed. These surveys were excluded from the sample to reduce the threat to validity (Osborne & Blanchard, 2011). For the purposes of this study only participants that self-identified as male or female were retained for the data analyses. Four participants identified as either transgender, gender fluid, or other, and were

therefore excluded from the analyses. The final sample utilized to run the analyses for H_1 totaled 170 participants. Moreover, due to missing data among the PCQ-P scale, one participant was excluded from the statistical analyses; thus, the final sample totaled 169 participants to assess H_2 of whether a perceived patient-centered environment moderated the association between gender and medical mistrust.

To test the study's first hypothesis, a Welch's *t*-test was conducted to determine if levels of medical mistrust significantly differed among males and females. Medical mistrust was the dependent variable and the independent variable (gender identity) had two levels. Therefore, a t-test was determined as the most appropriate statistical test in order to compare means. A hierarchical multiple regression was conducted to examine a potential moderating effect of perceived patient-centered care on the association between gender and medical mistrust. A hierarchical multiple regression was determined due to the examination of associations between medical mistrust, gender identity, perceived patient-centered care, and potential moderating effects.

CHAPTER 3

RESULTS

Preliminary Analyses

Prior to conducting the analyses, tests for normality (e.g., skewness, and kurtosis), linearity, multicollinearity, and homoscedasticity were checked in order to minimize erroneous interpretations of the data (Singh & Masuku, 2014). Assumptions for the study's variables were all satisfactory. Next, means, standard deviations, and zero-order correlations were determined for the study's variables, and are shown in Table 2. It was observed that perceived patient-centered care was negatively and significantly correlated with medical mistrust. Based on Cohen's (1992) effect sizes ($r =.10$ small, $r =.30$ medium, and $r =.50$ large effect size), the effect size for perceived patient-centeredness was large $r = -.44$.

Next, analyses were conducted to determine potential covariates. Four analyses of variance (ANOVAs) were conducted to examine whether medical mistrust varied as a function of the categorical demographic variables including multiracial identity, affordable access to care, yearly individual income, and level of education. Bonferronni adjustment (p value=.05/4=.01) was used to correct for Type I error (Napierala, 2012). The F values ranged from 0.43 to 2.70 and p values ranged from .02 to .55 thus, the results indicated no significant effects. Last, a correlation analysis was conducted for the continuous demographic variable of age. A significant negative association was found between age and medical mistrust with a medium effect ($r (167) = -.29, p < .001$). Thus, age as a covariate was used in the multiple regression analysis.

Hypothesis 1

Due to unequal sample sizes, a Welch's *t*-test was conducted to assess if Black females ($n = 112$) reported statistically significantly higher mean scores for medical mistrust when compared to Black males ($n = 58$). Normality was satisfied (i.e., skew < |2.0| and kurtosis < |9.0|; Schmider, Ziegler, Danay, Beyer, and Bühner, 2010) among female and male distributions for the purposes of conducting a *t*-test. Additionally, the assumption of the homogeneity of variances was satisfied via Levene's *F* test, $F (168) = .91$, $p = .341$. On average, females exhibited higher medical mistrust ($M = 3.44$, $SD = .71$) than males ($M = 3.16$, $SD = .80$). This difference, -.28 was significant $t (104.28) = -2.26$, $p = .026$. Thus, Black females scored statistically significantly higher on medical mistrust than Black males, which support H_1. A small-medium effect size is observed based on Cohen's (1992) guidelines, Cohen's $d = .37$.

Hypothesis 2

To examine the role of perceived patient-centered care as a moderator on the association of medical mistrust and gender (H_2), a hierarchical multiple regression analysis was conducted using SPSS 27 (see Table 3). The interaction term (e.g., perceived patient-centered care × gender identity) was created by multiplying the predictor (i.e., gender) and the moderator (i.e., PCQ-P). In Step 1, the control variable of age was entered into the first block of the regression. The results indicated that age was a significant predictor in the model and accounted for 8.2% of the variance in medical mistrust, $F (1,167) = 14.98$, $p < .001$. In Step 2, the predictor, gender identity, was entered into the second block of regression and it was significant in predicting medical

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mistrust; this explained an additional 10.7% of the variance in medical mistrust beyond age, $\Delta R2 = .02$, $\Delta F (1, 66) = 4.50$, $p = .04$. In Step 3, the moderator perceived patient-centeredness was entered in the third block and this added incremental variance of 25% in medical mistrust above and beyond age and gender identity, $\Delta R2 = .14$, $\Delta F (1, 165) = 31.54$, $p < .05$. In the last step, a one-way interaction term of gender identity on perceived patient-centered care was added into the regression analysis and this did not significantly explain additional variance in medical mistrust, $\Delta R2 = 0.0\%$, $\Delta F (1, 164) = .01$, $p = .94$. The interaction term of gender identity x perceived patient-centered care was not significant in the last step, showing no additional variance to the regression model ($\beta = .01$, $p = .94$). This suggests that the association between gender identity and medical mistrust was not moderated by levels of perceived patient-centered care; thus, the hypothesis was not supported.

Based on Cohen's defined values (i.e., 0.02 = small, 0.15 = medium, and 0.35 = large) the addition of gender within the model explained 10.7% of the variance in medical mistrust scores above and beyond age consistent with a small effect size, and the addition of perceived patient-centered care explained 25% of the variance in medical mistrust above and beyond age and gender (Aguinis, Beaty, Boik, & Pierce, 2005). This was consistent with a medium effect size. The interaction of gender identity X perceived patient-centered care was not significant in explaining any additional variance in the model $\beta = .01$, $p = .94$.

CHAPTER 4

DISCUSSION

Health disparities are a growing public health concern. According to Sommers (2017), disparities and inequalities in health have been on the rise despite research endeavors. As a result, minorities suffer thousands of needless fatalities every year (Matthew, 2018). Factors perpetuating disparities and inequalities are typically examined through one's socioeconomic status, access to healthcare, biological factors, geographic location (Howell, 2018). Only more recently has medical mistrust been identified as a substantial contributor to disparities and inequalities in health. Research has demonstrated that medical mistrust leads to more adverse health outcomes such as predisposition to certain conditions and higher mortality rates (Colen et al., 2018), and that individuals with higher levels of medical mistrust have less care satisfaction, treatment adherence, and service utilization (Henderson et al., 2019).

Given sociohistorical contexts that the Black community exists and have been stratified within in the U.S., it should not come as a surprise that on average these individuals exhibit higher levels of medical mistrust (Hammond, 2010). Historical and grave systemic injustices against these individuals have spanned their presence within the U.S., and research supports their experiences of discrimination within health care (Degruy 2017; Klonoff, 2009, Matthew, 2018). Additionally, there is an amplitude of research that demonstrates differential treatment for Black people in health care such as preexisting biases influencing medical decision making, lower quality of care for diabetes screenings, and being recipients of outdated treatment modalities more often (Klonoff 2009, Paradies et al., 2014; Peek et al., 2010). In addition to the marginalization that

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exists for this community based on race, discrimination based on gender identity occurs as well. Intersectionality was theorized as a way for Black women to understand the effects of how multiple identities explained their lived experiences and accounted for discrimination that was not experienced by Black men (Gkiouleka, 2018).

More recently, research has linked racial discriminatory experiences and racial differences to medical mistrust (Colen et al., 2018, Peek et al., 2010). However, very little research exists that has linked the intersection of gender identity and Black racial identity to yield outcomes of medical mistrust. Moreover, patient-centered care describes care from physicians that conveys empathy, respect, responsiveness to patient needs, and a collaborative relationship with patient-guided decision making (Cuevas et al., 2019; Hammond, 2010; Muntinga et al., 2014; Ree et al., 2019). Recently, this has been investigated as a construct that can moderate levels of medical mistrust, such that as levels of perceived patient-centered care increases, medical mistrust decreases. Individuals with higher perceptions of patient-centered health care interactions are more likely to collaborate with physicians, ask questions regarding their health, and adhere to treatment recommendations (Cuevas et al., 2019, Muntinga et al., 2014).

The first goal of the present study was to examine medical mistrust at the intersection of gender identity and Black/ African-American racial identity. The second goal of the study was to investigate if perceived-patient centered care moderated the association between medical mistrust and the intersection of Black racial identity and gender identity. Results of this study supported differences in medical mistrust as a function of gender, and supported a negative association to perceived patient-centered

care. However, results did not support perceived patient-centered care as a moderator on the positive association between gender and medical mistrust.

Gender and Medical Mistrust

Medical mistrust is defined as the absence of trust in health care/medical institutions (e.g., hospitals, health offices) and medical professionals (e.g., physicians), and the belief that these entities and professionals act "against one's [patient's] best interest or well-being" (Jaiswal & Halkitis, 2019, p. 80). Black individuals exhibit higher rates compared to non-Black people (Cuevas et al., 2019; Vina et al., 2015). Conceptually, medical mistrust has been examined from a sociohistorical lens and research has linked these racial differences to discriminatory experiences in health care (Colen et al., 2018, Peek et al., 2010).

Given the lack of research that exists examining within group differences, such as gender for Black identifying individuals, it was hypothesized that Black females would exhibit higher levels of medical mistrust than Black males due to the unaccounted-for discrimination among gender identity and Black racial identity. As predicted, Black females endorsed statistically significantly higher levels of medical mistrust which may be indicative of intersectional influences. Black women reported discrimination based on gender and race that Black men do not experience. Dr. Kimberlé Crenshaw's endeavors in conceptualizing intersectional influences have rendered visible the distinct experiences that Black women face that others may not (Santovec, 2017). This present study supports the notion that medical mistrust is worse for Black women and therefore may lead to

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worse health outcomes than Black males. These distinct experiences for Black women warrant further exploration.

Moderating effect of Perceived Patient-Centered Care

As discussed in the literature, results from this study supported findings on the association between medical mistrust and perceived patient-centered care (Cuevas et al., 2019). In other words, the present study found that higher perceptions of patient-centered care were statistically significantly associated with lower levels of medical mistrust. These findings indicate that a higher perception of patient-centered care from a physician predicts more trust for the provider and therefore more adherence to treatment recommendations, as well as a more collaborative working relationship. This in turn may improve upon health outcomes as perceived patient-centered care is generally correlated with health disparities reduction (Cuevas et al., 2019).

As a result of the literature and the present study's findings that supported the negative association between perceived patient-centered care and medical mistrust it was hypothesized that perceived patient-centered care would moderate the positive association between gender identity and medical mistrust. Contrary to the prediction, findings did not meet the threshold of statistical significance, and upon further investigation it was seen that perceived patient-centered care was not significantly associated with gender. This non-significant relationship may be indicative of the non-significant interaction finding of perceived patient-centered care by gender identity. These findings may be due to other confounding factors. Correspondingly, according to Suhonen et al. (2018), research was conducted on the associations between cancer

patient's perception of patient-centered care and gender identity. Results indicated no significant findings on the associations between cancer patients' gender and perceptions of patient-centered care (Suhonen et al., 2018). Results from the study indicated that cancer may have been the strongest determinant in perceptions of care. Moreover, participants in the present study may have varying degrees of medical maladies which may be a stronger determinant of perceptions of patient-centered care, despite gender or other demographic characteristics. Future research may examine associations of specific medical maladies to perceptions of patient-centered care.

Limitations

      Methodology. Although the present study's findings were significant, the study did have its limitations. The majority of recruitment occurred through snowball sampling, as the study was shared via social media platforms. Individuals were encouraged to share the study within their social circles, including friends and family, which may have influenced the variability of the sample. Perhaps the largest limitation of study is surrounding the sample characteristics, as the study only encompasses Black males and females.

      The study did not receive enough participants to include nonbinary comparisons, and examining rates of medical mistrust in nonbinary individuals may have yielded stronger results and further statistical significance. Contrary to some literature findings, research conducted in a sample of transgender women examining racial differences on utilization of HIV preexposure prophylaxis (PrEP), found that levels of medical mistrust were higher among White transgender women than Black transgender women. While

results from these findings contradict previous findings on racial differences and associated levels of medical mistrust, it may be important to examine if gender identity accounts for more medical mistrust above and beyond racial differences. Furthermore, examining within group differences among Black racial identity and more diverse categories of gender identity—to include nonbinary individuals— may strengthen claims on associations between intersectionality and medical mistrust. In turn, this may further highlight distinct experiences transgender and nonbinary individuals face due to discrimination based on gender identity.

The next limitation regarding the characteristics of the sample was that the majority of participants identified as female at 64.4% ($n = 112$) while male participation was at 33.3% ($n = 58$). Although statistically adjusted for, the unequal sample sizes may have influenced interpretability of the results.

Measures. The next limitation of this study was in regards to The English Person-Centered Climate Questionnaire–Patient version (PCQ-P; Edvardsson, 2008). This questionnaire assesses the degree to which an individual perceives their health care environment as being patient-centered. Some questions within this measure examine health care settings that may not have been applicable to all participants. For example, question 12 is worded as "A place which feels homely even though I am in an institution". While adapting the survey language for certain questions may have been more appropriate and relatable to participants, such adaptions have not been validated and could pose a threat to external validity. Future directions can explore adapting the language of the PCQ-P to reflect more standard health care offices and therefore relatability.

Design. The last limitation of the study is in regard to design. Due to snowball sampling, variability within the sample may have been low among geographic location of the participant. This was not assessed nor controlled for due to measures taken by the researcher to protect identity of the participants. Furthermore, geographic location, region, and IP address were not collected nor assessed for the data analyses. Since geographic location of the participant was not considered as a control variable, this may have been a confounding factor within the data analyses.

According to Brincks et al. (2019), geographic location of participants was stratified into Southern U.S. and Northern U.S. when examining discriminatory experiences in health care settings. It was found that racial differences in reporting discriminatory experiences were significant in the Southern region (Brincks et al., 2019). In other words, statistically significant differences were found in reported discrimination among different races/ethnicities for participants that resided in the South. As discrimination is highly associated to levels of medical mistrust (Colen et al., 2018, Peek et al., 2010), if any participants had resided or currently reside in Southern U.S. regions, they may have experienced more discrimination and therefore rates of medical mistrust may have been impacted. Furthermore, perceptions of discrimination were not assessed for within the study. The literature on health disparities may benefit from future explorations of the associations between perceived discrimination, geographic location, and levels of medical mistrust.

Future Directions

Despite the present study's limitations, the implications of the findings yield a myriad of future directions that warrant additional exploration. The present study is among the few that examine associations between medical mistrust and within group differences within Black communities, such as Black racial identity and the intersection of gender identity. Findings supported the hypothesis that levels of medical mistrust are higher for Black females compared to Black males which may be indicative of gendered discriminatory experiences that males do not experience or there are significant differences in their reporting of these experiences. Moreover, the present study was limited to binary populations due the lack of diversity within this sample. Examining nonbinary populations may demonstrate that Black identifying transgender or nonbinary individuals experience higher levels of medical mistrust above and beyond that experienced for Black females. This may also be telling of distinct, gendered discriminatory experiences that nonbinary populations experience others do not.

Additionally, associations of medical mistrust should be explored regarding other intersecting influences such as disability status, immigration status, indigenous heritage, and other racial/ethnic considerations. Identifying how intersecting influences correlate to levels of medical mistrust may yield integral findings on other constructs that can moderate potential associations. Lower levels of medical mistrust are associated with more favorable health outcomes and require additional research.

Correspondingly examining associations between perceived patient-centered care, medical maladies, and demographic variables may be critical in reducing the health disparities gap as perceived patient-centered care and medical mistrust are inversely

associated (Cuevas et al., 2019). Although findings demonstrated that perceived patient-centered care and gender identity were not associated, past research indicated that participants cancer diagnosis may have been the most important predictor (Suhonen, 2018). Examining other medical maladies as strong predictors of perceived patient-centered care may be informative for working with certain disorders and health conditions to produce higher levels of treatment adherence, patient collaboration, and therefore more favorable health outcomes. Moreover, inspecting how other demographic characteristics (i.e., race/ethnicity, SES, education, disability status, etc.) influence levels of perceived patient-centered care should be encouraged.

Implications for Mental Health Counselors

While the present study focused on health care interactions specifically within the medical field, the implications for mental health counselors are substantial. First, the field of counseling is arguably already a part of the health care model and framework. While certain stigmas associated with counseling perpetuate the notion that it is exclusive of health care, research indicates counseling as a health science (Hack et al., 2018; Theuser et al., 2021). Additionally, more counselors have adopted integrative approaches to psychotherapy as there is an increasing demand (Theuser et al., 2021). According to Frisch & Rabinowitsch (2019), integrative health care is conceptualized as a combination of multiple paradigms that encompass healing and preventative treatment modalities to achieve overall well-being. Research has indicated that this evidence-based practice is beneficial for chronic conditions, and as of 2012 33% of the U.S. population endorsed utilizing integrative health modalities (Bolten et al., 2020). As the field of counseling is

conceptually moving towards a health model, the importance of being informed on aspects of medical mistrust for marginalized communities extends to counseling clinicians. Counselors being knowledgeable on medical mistrust may mitigate levels, as it provides an opportunity for counselors to work with clients experiencing such distrust.

Furthermore, psychotherapy focuses on multiple aspects of a client's life, including past medical history, and therefore may produce important information regarding a client's relationship with their physicians, or lack therefore. As a counselor, being educated on medical mistrust may augment insight on how to provide corrective emotional experiences for client's experiencing the presence of these negative emotions for health care providers. Additionally, counselors adopting an integrative health model and working more closely with health care partitioners may serve as an additional layer of communication and collaboration for the client's health.

Competency and Training. A significant implication for the present study is the priority that should be placed on counselors to improve competency and training among matters such as health disparities, systemic-based trauma modalities, and intersectionality. For many individual's health disparities are a life-or-death matter. Literature has shown an increasing number of mortalities among minorities as a result of health disparities (Matthew, 2018). Additionally, the disproportional effects of COVID-19 have underscored that for racial and ethnic minorities higher rates of infections, hospitalizations, long-term side effects, and death are a reality (Chastain et al., 2020). Factors perpetuating such disparities and inequalities in health should be further investigated, specifically medical mistrust due its strong association (Hammond, 2010). Additionally, with growing rates of disparate health outcomes for the Black community

(Sommers, 2017), an emphasis should be placed on emerging and seasoned counselors to assist in addressing this systemic issue. Awareness may potentially lead to factors that will moderate medical mistrust and the negative outcomes associated aforementioned.

Moreover, one main aspect that *ACA Code of Ethics* counselors adhere to posits that counseling work is done in conjunction with promoting social justice (American Counseling Association, 2014). Examining how social systems marginalize certain populations, which leads to negative and disparate outcomes (O'Brien et al., 2020), is a founding principle when providing mental health therapy. Counselors abiding by ethical practices such as "beneficence" and "justice" (ACA, 2014, p.3), have a duty to increase competency among systemic issues and furthermore the training that is needed to assist individuals experiencing systemic trauma. Systemic trauma, disproportionately affecting minorities, is also associated with disparate health outcomes (Henderson et al., 2019). Counselor training in systemic-based trauma modalities is a necessity to ensure ethical adherence and the advancement of social justice. Processing how systemic trauma affects diverse clients during psychotherapy may also increase healing and should be conceptualized as best practice.

Lastly, comprehending the effects of intersectionality for individual clients should be encompassed within the foundation of the counseling relationship. While there is autonomy in deciding which evidenced-based modality to use for clients, counselors should first employ an intersectional framework to increase their understanding of the systemic issues' clients may be undergoing. According to Gkiouleka et al. (2018), intersectionality is a critical factor in the shaping of health inequalities, and the systems clients are socialized and stratified within bear great influence over mental and physical

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well-being. Results from the present study demonstrated that Black females experienced higher levels of medical mistrust than Black males. These findings may be indicative of the gender discrimination experienced by this population. Perspicacity on how marginalized identities impact a client's lived realities through further exploration of social systems exhibits adherence to the ACA's second value of cultural competence. Moreover, counselor acknowledgement of an intersectional framework may produce more healing effects for their clients.

Conclusion

The present study highlighted results that may be beneficial for informing not only the field of counseling, but for the entirety of the health care field and the providers within these systems. Counselors working with clients and health care practitioners working with their patients may benefit from a concentration on how discriminatory experiences, intersectionality, and perceptions of health care interactions impact the professional relationship. Taking an integrative approach and intersectional lens to understanding how a client's identities influence their lived experiences and perceptions of health care may inform research on constructs that moderate negative and disparate health outcomes. However, further research is needed on the associations of intersectionality, medical mistrust, patient-centered care, and moderating factors for disparities and inequalities in health

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APPENDIX A

TABLES

Table 1
Demographics for Study Variables (N = 174)

Demographic Variable	Number	Percentage
Gender Identity		
Female	112	64.4%
Male	58	33.3%
Gender Fluid	2	1.1%
Transgender	1	0.6%
Other	1	0.6%
Nonbinary	0	0.0%
Multiracial Identity		
No	89	51.5%
Yes	85	48.9%
Education Level		
Less than High school	2	1.1%
High school	41	23.6%
Professional Program	20	11.5%
Associate degree	22	12.6%
Undergraduate degree	50	28.7%
Graduate degree	39	22.4%
Yearly Individual Income		
$0 - $24,999	25	14.4%
$25,000 - $49,000	62	35.6%
$50,000 - $74, 999	45	25.9%
$75,000 - $99,999	21	12.1%
$100,000 - $149,000	17	9.8%
Greater than $150,000	4	2.3%
Access to Affordable Care		
Yes	149	85.6%
No	17	9.8%
Unsure	8	4.6%

Table 2

Means, Standard Deviations, and Correlations among Study Variables

	Variable	M	SD	1	2	3
1	Age	34.63	11.57	--	--	--
2	Medical Mistrust	3.35	.75	-.29**	--	--
3	Perceived Patient-Centered Care	4.07	.91	.29**	-.44**	--

Note. * = $p < .05$; ** = $p < .01$

Table 3

Hierarchical Multiple Regression Analysis

| Variable | Unstandardized Coefficients | | Standardized Coefficients | | | | |
	B	Std. Error	Beta	t	*Adj. r²*	ΔR^2	ΔF (*df*)
Intercept	3.99	.18		22.67			
Step 1					.08	.08	14.98 *** (1, 167)
Age	-.02	.01	-.29	-3.87***			
Step 2					.10	.02	4.50* (1,166)
Gender	.25	.12	.16	2.12*			
Step 3					.24	.14	31.54*** (1,165)
PCQ-P	-.33	.06	-.40	-5.62***			
Step 4					.23	.00	
Gender X PCQ-P	.01	.11	.01	.08			

Note. PCQ-P denotes perceived patient-centered care. * = *p* < .05, ** = *p* < .01, *** = *p* < .001

APPENDIX B

INFORMED CONSENT

I am a graduate student under the direction of Cheryl Warner, PhD in the Department of Counseling and Counseling Psychology, College of Integrative Arts and Sciences at Arizona State University. I am conducting a research study to examine associations between gender identity, medical mistrust, and perceived patient-centered care for Black-identified/ African American individuals.

I am inviting your participation, which will involve completing an online Qualtrics survey. The survey will ask questions regarding non-identifiable demographic information and perceptions of healthcare interactions. The expected duration of the subject's participation is estimated at 10-15 minutes. You have the right not to answer any question, and to stop participation at any time.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. After completion of the study, and if you so choose, you can be entered into a raffle to win one of 10 $15 Amazon gift cards. For participation in this study, **you must be 18 or older** and **identify as Black/ African American or multiracial in which one of your races is Black/ African American**.

A possible benefit of your participation is the advancement of research informing health disparities and inequalities for Black/ African-American communities. There are no foreseeable risks or discomforts to your participation however, some questions may elicit emotional discomfort in participants due to their sensitive nature.

Participation in this research is **confidential** and your responses **will remain anonymous**. No identifiable information will be obtained. The results of this study may be used in reports, presentations, or publications. Additionally, the results of this study will only be shared in the aggregate form.

If you have any questions concerning the research study, please contact either the student PI **Tianna Matthews** at **tmatthews.research@gmail.com** or the faculty PI **Cheryl Warner** at **cheryl.warner@asu.edu** or at **(480) 965-2420**. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788. If you wish to be part of this study please advance to the next page.

APPENDIX C

SCREENING QUESTIONNAIRE

1. Are you at least 18 years of age? Y/N

2. Do you identify as Black / African-American or multiracial in which one of your

   races is Black / African-American? Y/N

*If participants indicated "No" to either question 1 or 2, they were ineligible.

APPENDIX D

DEMOGRAPHICS

1. Indicate (in years and months) how old you are.

    a. _____Years

    b. _____Months

2. In addition to Black/ African-American, which labels best describes your racial background? Select all that apply

    a. American Indian or Alaska Native

    b. Asian/Asian American

    c. Caribbean American d. Hispanic/Latinx

    d. Native Hawaiian or Pacific Islander

    e. White/European American

    f. Other

    g. N/A

3. How would you describe your sexual orientation?

    a. Bisexual

    b. Gay

    c. Heterosexual

    d. Lesbian

    e. Queer

    f. Other

4. What is your gender identity?

    a. Male

    b. Female

    c. Nonbinary

    d. Transgender

    e. Gender fluid

    f. Other

5. What is the highest level of education you have completed?

    a. Less than high school

    b. High school

    c. Professional program

    d. Associate degree

    e. Undergraduate degree

    f. Graduate degree

6. What is your typical yearly individual income before taxes?

    a. $0 - $24,999

    b. $25,000 - $49,999

    c. $50,000 - $74,999

    d. $75,000 - $99,999

    e. $100,000 - $149,999

    f. Greater than $150,000

7. Do you have access to affordable health care?

    a. Yes

    b. No

    c. Unsure

8. Prior to COVID-19, what was the average number of annual visits that you had

    with a doctor or health care worker?

   a. Indicate the average number of annual visits _____

   b. Unsure

   c. I have never had an appointment with a doctor or health care worker

9. Indicate where you are receiving health care services

   a. University/ college/ or trade school

   b. Community clinic/ agency

   c. Nonprofit

   d. Employer

   e. Private

   f. Other_____

   g. I do not wish to access services

   h. I do not have access to services

10. Are you currently a student attending a college, university, or trade school?

   a. Yes

   b. No

APPENDIX E

RESEARCH SURVEY

Group-Based Medical Mistrust Scale
(GBMMS; Valera et al., 2016)

Directions: Below is a list of statements dealing with your general feelings about the healthcare system. Read each item carefully and circle whether you strongly agree, agree, feel neutral, disagree, or strongly disagree with each statement.

1. Doctors and health care workers sometimes hide information from Black people

2. Doctors have the best interests of Black people in mind

3. Black people should not confide in doctors and health care workers because it will be used against them

4. Black people should be suspicious of information from doctors and health care workers

5. Black people cannot trust doctors and health care workers

6. Black people should be suspicious of modern medicine

7. Doctors and health care workers treat Black people like guinea pigs

8. Black people receive the same medical care from doctors and health care workers as people from other groups

9. Doctors and health care workers do not take the medical complaints of Black people seriously.

10. Black people are treated the same as people of other groups by doctors and health care workers

11. In most hospitals, people of different racial groups receive the same kind of care

12. I have personally been treated poorly or unfairly by doctors or health care workers because of my race

Scaling: 1 (Strongly Disagree); 2 (Disagree); 3 (Neutral); 4 (Agree); 5 (Strongly Agree)

Scoring: Reverse score items 2, 8, 10, and 11 (where 1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1). To compute the total scale score, average the items 1-12.

The English Language Person-Centered Climate Questionnaire–Patient Version
(PCQ-P; Evardsson, 2008)

Directions: Please indicate the response that best describes your experience in health care

settings.

A place where the staff is knowledgeable.

1. A Place where the staff is knowledgeable

2. A place where I rely on receiving the best care.

3. A place where I feel in safe hands.

4. A place where I feel welcome.

5. A place where it is easy to talk to the staff.

6. A place where the staff take notice of what I say.

7. A place where the staff come quickly when I need help.

8. A place where the staff use language I can understand.

9. A place which is neat and clean.

10. A place where the staff have time for the patients.

11. A place where there is something nice to look at.

12. A place which feels homely even though I am in an institution.

13. A place where it is possible to get unpleasant thoughts out of your head.

14. A place where people talk about ordinary things, not just illness.

15. A place where the staff make a little extra effort on my behalf.

16. A place where I have choices, for example, what to wear.

17. A place where I can get "that little bit extra."

Scaling: 1 (no, I disagree completely); 2 (no, I disagree); 3 (no, I partly disagree); 4 (yes, I partly agree); 5 (yes, I agree); 6 (yes, I agree completely).

Scoring: To compute a total score, average the items 1-17.

APPENDIX F

RAFFLE SURVEY

1) If you wish to be entered into the raffle to win one of 10 $15 Amazon gift cards

   enter your email here. _____

APPENDIX G

IRB APPROVAL

EXEMPTION GRANTED

Cheryl Warner
CISA: Counseling and Counseling Psychology
-
Cheryl.Warner@asu.edu

Dear Cheryl Warner:

On 9/15/2021 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Medical Mistrust Among the Intersection of Race and Gender of Black Individuals as Moderated by PatientCentered Care
Investigator:	Cheryl Warner
IRB ID:	STUDY00014387
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• IRB Social Behavioral Form, Category: IRB Protocol;• Recruitment Methods_ Flyer_08-20-2021, Category: Recruitment Materials; • Recruitment Methods_Email Template_08-14-2021, Category: Recruitment Materials; • Short Form Consent, Category: Consent Form; • Supporting Documents_ Raffle Survey_08-20-2021, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Supporting Documents_08-14-2021, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 9/15/2021.
In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

This approval is for the non-ASU sample.

If any changes are made to the study, the IRB must be notified at research.integrity@asu.edu to determine if additional reviews/approvals are required. Changes may include but not limited to revisions to data collection, survey and/or interview questions, and vulnerable populations, etc.

REMINDER - All in-person interactions with human subjects require the completion of the ASU Daily Health Check by the ASU members prior to the interaction and the use of face coverings by researchers, research teams and research participants during the interaction. These requirements will minimize risk, protect health and support a safe research environment. These requirements apply both on- and off-campus.

The above change is effective as of July 29th 2021 until further notice and replaces all previously published guidance. Thank you for your continued commitment to ensuring a healthy and productive ASU community.

Sincerely,

IRB Administrator

cc: Tianna Matthews