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Prescribing Biases: Evaluating Race and Gender Biases held by Medical Professionals

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Prescribing Biases:
Evaluating Race and Gender Biases held by Medical Professionals*

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ABSTRACT

Evaluating medical professionals implicit racial and gender biases compared to other professions provides a window into medical professionals' covertly biased behaviors. I examine whether or not medical professionals, compared to other professions, are more likely to hold predisposed racial and gender biases. Analysis of 2000 to 2014 General Social Survey Data (N=4,772) found the framework of implicitly biased behavior against Black and female-identifying individuals held by medical professionals to be faulty. The results from the multivariate regression revealed the opposite of my hypothesis, regarding sexist (pro-natal) attitudes, medical professionals were less likely than other professions to exhibit sexist attitudes. The multivariate regression refuted my hypothesis wholly regarding racial antagonism, there was no statistical significance ($p < .05$). Not aligning with prior research, medical professionals did not appear to hold race and gender based implicit biases. Further research should be done within this field of study, possibly a qualitative comparison of medical professionals implicit biases compared to other professional groups.

Prescribing Biases:

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INTRODUCTION

“Doctors-orders” is a popular phrase in American vernacular. When a medical professional tells us something, we tend to take it as fact because we’ve been socialized to do so. What if the orders our doctor gives lead us to not want to receive medical care anymore? And what if, without being aware of it, our doctors’ implicit biases are the reason for their misaligned orders? Past studies have shown that implicit biases held by medical professionals have had a negative effect on the care given to Black individuals and female-identifying individuals (Cooper, Roter Carson, Becah, Sabin, Greenwald, and Inui 2012; Druckman, Trawalter, Montes, Fredendall, Kanter, and Rubenstein 2018; FitzGerald and Hurst 2017; Sabin, Nosek, Greenwald, and Rivara 2009; Penner, Dovidio, West, Gaertner, Albrecht, Dailey, and Markova 2010).

The current study at its core is looking at gender and race-based medical discrimination. More specifically, it examines race and gender biases held by medical professionals in comparison to other professional groups. This study concerns aspects of identity, specifically racial and gender inequality. Within my research I am looking at medical professionals perceptions of Black and female-identifying individuals to see if they hold stronger biases against these individuals compared to other professionals.

Female-identifying individuals and Black individuals receive poorer care than cis-gender, white, male individuals. This is due to medical professionals holding predisposed gender and racial biases (Cooper et al. 2012; Druckman et al. 2018; FitzGerald and Hurst 2017; Sabin, et al. 2009; Penner et al. 2010). Medical professionals who hold biases regarding certain racial and gender identity groups will give them care based off their perceived biases, which are usually

rooted in stereotypes (Cooper et al. 2012; Druckman et al. 2018; FitzGerald and Hurst 2017; Sabin, et al. 2009; Penner et al. 2010). This matters sociologically speaking because medical professionals who want to hold and maintain their power can use their own personal biases to affect the care they give, keeping racial and gender minorities from living equitable lives, and possibly, lead to their health declining.

While the current study does not directly observe the care medical professionals provide to patients based on their gender and racial identities, it offers insight into this pressing issue by examining racial and gender biases held by medical professionals compared to other occupations. Using the General Social Survey, this research compares medical professionals' predisposed biases held against Black individuals and female-identifying individuals to those of people in other occupations. I hypothesize that medical professionals (net of other characteristics) who hold negative perceptions of Black individuals are more likely than other types of professionals to exhibit racial biases. I also hypothesize that medical professionals (net of other characteristics) who hold negative perceptions of female-identifying individuals are more likely than other types of professionals to exhibit gender biases.

THEORETICAL FRAMEWORK

This study draws on a robust literature documenting the pervasiveness of implicit biases. Implicit biases work as the causal mechanism for the current research. Implicit biases are non-conscious attitudes and beliefs. (Sabin et al. 2009). Implicit biases are different on a person-to-person basis based off the makeup of their identity (Sabin et al. 2009). Those who hold marginalized identities are less likely to hold implicit biases comparative to those who hold majority identities (Sabin et al. 2009). Given marginalized individuals lived experience within

their identity, they are more aware of how their identity affects their interpersonal relationships (FitzGerald and Hurst 2017).

Within the intellectual realm of healthcare (racially speaking), implicit biases have been linked to medical professionals having preference for white patients and poor interpersonal care with Black patients (Metzl, Petty, and Olowojoba 2017). With the causal mechanism of implicit biases in mind, I argue that medical professionals hold implicit biases against Black individuals and female-identifying individuals. Despite medical professionals needing to have “bed side manner” (i.e. good interpersonal skills to keep patients at ease), they tend to have little to no education on the social aspects of health care (Malat, Clark-Hitt, Burgess, Freidemann-Sanchez, and Van Ryn 2010). Medical professionals lack of education regarding the social side of care causes them to not be salient of how their identity and their patients identity affect their interpersonal relationship and society overall (Malat et al. 2010; Cottingham et.al 2018). Medical professionals have more at stake than other professional groups when utilizing implicitly biased behavior in interpersonal relationships. Medical professionals can jeopardize the health of others with implicitly biased care. Other professional groups may be implicitly biased, but none have the same lasting physical effect that medical professionals biased behaviors have.

Medical professionals are highly educated individuals, they are less likely to be overtly racist and/or sexist (Metzl et al. 2017; Sabin, Nosek, Greenwald, and Rivera 2012). Implicit biased behaviors are less conspicuous and tend to be associated with non-verbal behavior (as opposed to explicit biases which are associated with verbal behavior) (Sabin et al. 2012). Due to medical professionals lack of education regarding issues of identity and institutional racism, medical professionals are more likely than other professions to hold implicit biases. Despite being educated, I assert medical professionals still hold unconscious attitudes and beliefs about

certain racial and gender identity groups. Although not directly related to this framework; an outcome of this framework is the implicit biases held by medical professionals affects the *care* they give to Black and female-identifying individuals.

LITERATURE REVIEW

Compared to other professions, do medical professionals hold predisposed racial and gender biases? Biases held by medical professionals have a larger effect on the physical well-being of individuals compared to biases held by other professionals. Black individuals and women are more likely than white male patients to receive poorer care (Shavers, Fagan, Jones, Klein, Boyington, Moten, and Rorie 2012; Bertakis, Franks, and Epstein 2009; Cooper, Roter Carson, Becah, Sabin et al. 2012). This can be attributed to a multitude of structural features in current western society. I assert that the three main themes are: implicit biases that affect the interpersonal relationship between patient and provider, lack of proper education, and institutionalized racism within the healthcare industry. The premier assertion is critical to this research. Implicit biases within interpersonal care affects the relationship between the patient and provider (Cooper et al. 2012; Druckman et al. 2018; FitzGerald and Hurst 2017; Sabin et al. 2009; Penner et al. 2010; Hagiwara, Dovidio, Eggly, and Penner 2016; Peck and Conner 2011; Stivers and Majid 2016 Adams, Cas, Fitness, and Stevenson 2017; Bertakis et al. 2012; Street, Gordon, and Haidet 2007). This interpersonal relationship also affects the institutional structure of healthcare, reinforcing white supremacy and sexist attitudes (Malat et al. 2010; Cottingham et.al 2018).

Biases and Medical Professionals. Literature shows that medical professionals can hold a “sliding scale” of implicit biases. If a patients identity is in direct conflict with a medical professional, they may let biases affect the care given (Cooper et al. 2012; Druckman et al. 2018;

FitzGerald and Hurst 2017; Sabin et al. 2009; Penner et al. 2010; Hagiwara et al. 2016; Peck and Conner 2011; Stivers and Majid 2016). This phenomenon could be attributed to medical professionals lack of education surrounding structural and/or cultural competencies. Structural competencies can be defined as interpersonal relationships and cultural competencies are identifying structural racism and sexism within society (Mackenzie et al. 2019; Metzl et al. 2017). However, bias care can also be attributed to stereotyping and biological determinism (Druckman et al. 2018; Adams et al. 2017).

A main attribute of implicit biases is biological determinism (Druckman et al. 2018) and how this affects medical professionals perceptions of patients. Biological determinism is a belief that individuals pain is controlled by their physical traits (Druckman et al. 2018). Pain tolerances are perceived as biologically different for Black people in comparison to white people (Druckman et al. 2018). Black individuals pain tends to be recorded less than white individuals pain, creating a pervasive false narrative that Black people can physically handle more pain (Druckman et al. 2018). Pain tolerances are also perceived as biologically different between female and male individuals. Females pain is discounted by medical professionals due to stereotypes of being perceived as “hysterical” and “delicate” (Druckman et al. 2018; Adams et al. 2017). Despite not being rooted in scientific findings, some medical professionals use biological determinism as reasoning behind changing the way they care for certain patients (Druckman et al. 2018).

More generally speaking, medical professionals hold more biases than other professional groups because the profession is dominated by those who are white and male (Sabin et al. 2009; Cottingham et al. 2018). By holding a majority identity, privilege and power is inherent. White male medical professionals tend to be unaware of how their identity affects their professional

positionality because they tend to think less actively about their identity, in comparison to marginalized groups (FitzGerald and Hurst 2017). By lacking an intersectional viewpoint due to their majority identity, medical professionals become easily swayed by stereotypes of Black and female identifying patients compared to other professional groups (Druckman et al. 2018; FitzGerald and Hurst 2017; Mackenzie et al. 2019).

What Educational Experiences Medical Professionals Lack. Medical professionals hold a fair amount of power given the position they're in. They are responsible for helping maintain the health and wellbeing of other people. Literature shows that the reason they hold strong implicit biases stems from improper education (Burgess et al. 2019; Mackenzie, Gannon, Stanley, Cosgrove, and Feder (2019); Malat et al. 2010; Metzl et al. 2017). Burgess et al. (2019) highlight the importance of medical professionals being salient and reflective of their personal biases. But just being aware one holds biases is not enough education on the matter. Malat et al. (2010) highlight the importance for medical professionals to be altruistic and have a code of honor to serve patients given their powerful status. However, despite a long education/training process where they gain specialized knowledge regarding medicine, medical professionals gain very little information regarding social aspects of health care. Medical professionals are not taught how to challenge racism and sexism within the medical field, national surveys have found that less than half of doctors believe that racial inequality in health care exists (Malat et al. 2010).

Some forms of training have been used to counteract biases in healthcare. Mackenzie et al. (2019) showcases how medical professional are trained on ideas of 'counter marginalization' as a type of cultural competency (1163). Cultural competency is about educating medical professionals to recognize their own personal gender and racial biases (Metzl et al. 2017). Mackenzie et al. (2019) and Metzl et al. (2017) argue that being culturally competent is not

enough to mitigate stigma and biases. Medical professionals need to gain knowledge on structural competencies instead, which is discerning from different types of issues on how to care for a patient based off larger ideas of politics and social inequalities (Mackenzie et al. 2019). Larger questions of systemic biases within healthcare do not get addressed within a cultural competency framework, which focuses on the interpersonal and does not cover institutional implications of biases (Metzl et al. 2017). Medical professionals hold the power of what happens to a human life, but without proper education on the social implications of healthcare, they can let personal biases affect the care they give (Mackenzie et al. 2019; Metzl et al. 2017). Because of this, the predisposed racial and gender biases medical professionals hold have larger implications than other professions.

Colorblind Racism and the Institution of Healthcare. Research shows that medical professionals use the theoretical framework of colorblind racism within their care. (Bonilla-Silva 2014; Malat et al. 2010; Cottingham, Johnson, and Erickson 2018). This is not the core theory of this current research but is a necessary supplement. Colorblind racism is white individuals claiming they do not see race or color yet tend to make decisions based off othering marginalized identities (Bonilla-Silva 2014; Malat et al. 2010). Research shows that medical professionals utilize colorblind racism when implementing care (Malat et al. 2010; Cottingham et.al 2018). Medical professionals are expected to not let the color of their patients skin affect the care they give. However, because of implicit biases held, care is affected for identities that are not similar to the professionals (Malat et al. 2010).

Medical care poses itself as institutional space that does not see color, presenting itself as prioritizing care of patients over patients racial identity (Cottingham et al. 2018). However, medical care is a white institutional space that benefits from white privilege (Malat et al. 2010).

The main benefit of white privilege within the institution of healthcare is white individuals health not being jeopardized because of institutionalized racism. Shavers et al. (2012) argue that institutionalized racism can exacerbate negative health effects of those who hold a target identity. Not only are Black individuals health issues exacerbated by structural racism, but their health is jeopardized within the institution of health care because white patients are favored (Shaver et al. 2012; Malat et al. 2010). When posing themselves as colorblind and altruistic, white medical professionals (and thus, the larger healthcare system) reinforces white privilege and supremacy (Malat et al. 2010). By ignoring how someone's racial identity can affect the care given to them (and the effects that institutionalized racism have on their health), although happening on an interpersonal level, it then has an affect institutionally because it reinforces attitudes and behaviors stereotyping Black identity within a white dominated institutional space. Thus, helping to maintain white supremacy and privilege within the health care institution (Cottingham et.al 2018; Malat et al. 2010; Shavers et al. 2012).

Not only is patients care negatively affected because of white institutional spaces, but Black healthcare workers are also negatively affected whilst working within a white institutional space. Cottingham et al. (2018) highlight the strain white institutional spaces puts upon Black female medical professionals. They are expected to do double of the emotional labor than their white male counterparts who dominate the field (Cottingham et al 2018; Hochschild 2012). Black female medical professionals have to prove themselves from racially antagonistic patients and other medical professionals while trying to implement care (Cottingham et al. 2018). Not only is more emotional labor involved within their work, but they have their authority questioned constantly by both patients and providers alike (Cottingham et al. 2018; Babaria, Abedin, Berg, Nunez-Smith 2012). Patient and provider not only are affected by racial biases held by medical

professionals, but those racial biases are maintained and sated by white medical institutions who utilize colorblind racism to maintain white supremacy within the institution of health care (Cottingham et al. 2018; Malat et al. 2010; Shavers et al. 2012).

The Interpersonal Relationship between Patient and Medical Provider. Focusing back in on a more micro level, an interpersonal relationship occurs between physicians and patients with different forms of communication based off of identity. (Adams et al. 2017; Bertakis et al. 2012; Street et al. 2007). Within most social relationships, there exists nonspecific/nonverbal acts of communication which guide how the social interaction will go (Cooper et al. 2012). Cooper et al. (2012) highlights how nonverbal/nonspecific communication between patient and provider affects the care given. And in turn, the medical professionals perception of the patient. If the patient falls into a stereotype of their gender and/or racial identity, medical professionals are more likely to let predisposed gender and racial biases affect the interaction. The patient-provider relationship is important to care because it affects the patients willingness (specifically female patients willingness) to receive needed medical care (Cooper et al. 2012; Bertakis et al. 2009).

When medical professionals perceive patients as a stereotype, they become dehumanized, leading the medical professional to lose a patient-provider relationship (Adams et al 2017). For example, Malat et al. (2010) highlight that Black patients are perceived by their providers as being less willing to accept medical professionals recommendations. However, Malet et al. (2010) research found that Black patients were more likely than white patients to abide by medical recommendations. Medical professionals not only stereotype patients but dehumanize them by warping their personality into a known stereotype (Malat et al. 2010).

Female patients are much more likely to feel dehumanized than male patients (Adams et al 2017; Menz and Al-Roubaie 2008). Since medical professional are not educated on how to

socially care for patients and instead let implicit biases affect the care they give, women feel isolated from receiving care from medical professionals (Adams et al. 2017; Mackenzie et al. 2019; Metzl et al. 2017). Medical professionals have been taught a style of care which tends to work for more masculine individuals due to the more detached and impersonal nature (Adams et al. 2017; Menz and Al-Roubaie 2008). However, more feminine individuals find this care style to be dehumanizing (Adams et al. 2017) and because of this female-identifying/feminine patients can be less likely to receive care because of this disconnect between patient and provider (Adams et al. 2017; Menz and Al-Roubaie 2008). This is relevant to this current research because within medical care, patients have to share vulnerabilities and be in a position of less power than their medical provider. When medical professionals do little to customize care style, this reinforces their biases and causes patients to feel isolated and stereotyped. Compared to other professions, medical professionals' racial and gender biases have a greater effect because they highlight insecurities of patients. This causes them to feel less willing to receive care in the future, possibly jeopardizing their health in the long run (Cooper et al. 2012; Bertakis et al. 2009; Malet et al. 2010).

Patients' Awareness of Identity. Patients' can become hyperaware of how their identity is perceived when receiving medical care (Campos-Castille 2018; Cooper et al. 2012). This has to do with effects of dehumanization (Adams et al. 2017). Patients feel like they are not an emotional being anymore which highlights a stark difference between patient and provider (Campos-Castille 2018; Cooper et al. 2012; Bertakis et al. 2009). This also has to do with the stark social differences between patients and medical professionals. Medical professionals tend to be affluent, white, and male (Sabin et al. 2009; Campos-Castille 2018). When medical professionals have patients of a different identity, a disconnect between the two can occur

(Cooper et al. 2012). A possible attribute for these disconnects is patients becoming hyperaware of their identity because it is in stark contrast to their providers (Campos-Castille 2018). Despite the current research being about medical professionals (not patients). It seems relevant to note, by showcasing that some are hyper-aware of their marginalized identities, that says more about the medical professional than the patient.

The Domino Effect of Medical Care. All in all, these themes encapsulate the working framework of implicit biases. These biases affect not only the patient but the interpersonal relationship between patient and provider (Adams et al. 2017; Bertakis et al. 2012; Street et al. 2007). The interpersonal relationship between patient and provider affects the larger institution of healthcare. When medical professionals let biological determinism or other forms of stereotypes inhibit their care, it also dehumanizes and isolates their patients (Cooper et al. 2012; Druckman et al. 2018; FitzGerald and Hurst 2017; Sabin et al. 2009; Penner et al. 2010; Hagiwara et al. 2016; Peck and Conner 2011; Stivers and Majid 2016). Research shows that for medical professionals to strive to have less implicit biases within care they must be educated on having social relationships with patients (Burgess et al. 2019). Within those interpersonal relationships, it is key for medical professionals to realize how their identity and their patients identity affects their relationship with one and other, along with how that then effects the larger institution of healthcare (Mackenzie et al. 2019; Metzl et al. 2017).

For the current research, this idea reinforces medical professionals stronger held racial and gender implicit biases. The literature also helps reinforce how due to structural/interpersonal racism and sexism, the care given to Black and female individuals lack compared to those who hold majority identities. This deficiency in care can lead to long term health issues for those of marginalized identities. The latter statement is critical to this current research because it

showcases how important it is for medical professionals, compared to other professions, to be altruistic and give equitable care to all identity groups. And how if equitable care is not received, the outcomes are much more severe compared to other professions. Past literature has shown that medical professionals hold implicit biases (Cooper et al. 2012; Druckman et al. 2018; FitzGerald and Hurst 2017; Sabin et al. 2009; Penner et al. 2010; Hagiwara, Dovidio, Eggy, and Penner 2016; Peck and Conner 2011; Stivers and Majid 2016 Adams, Cas, Fitness, and Stevenson 2017; Bertakis et al. 2012; Street, Gordon, and Haidet 2007). But what literature does not showcase is if medical professionals are uniquely biased compared to other occupations. Within this current research, I offer some preliminary answers regarding medical professionals biases comparative to other professional groups.

METHODS

Data and Sample. This is a repeated cross-sectional study ranging from 2000-2014 utilizing the General Social Survey data. The original sample size was 43,106 total individuals who participated in the survey between the years of 2000-2014. The dependent variables within this research utilized split ballots A and B. After removing the missing data and accounting for split ballot questions, the sample size was 4,722. General Social Survey data monitors social changes within the United States (Smith, Davern, Freese, and Morgan 2019). This research uses individuals as the unit of analysis. The data was collected through in-person interviews of non-institutionalized individuals over the age of 18. All GSS respondents spoke either English or Spanish and live (or lived at the time of taking the survey) in the United States. This data is collected in all parts of the United States (Smith et al. 2019). Between the years of 2000-2012 the GSS had a response rate of over 70%, dipping to 60.2% response rate in 2014 (Smith et al. 2019).

The data that was removed within this research was responses of: “Don’t Know”, “No Answer” or “Not Applicable.” This study utilized the gender module and the race module which have different sampling methods to yield generalizable results (Smith et al. 2019). For further information regarding General Social Survey data collection, consult the reference list (Smith et al. 2019) and find more information linked here: <http://gss.norc.org>.

Independent variables. Seven occupational variables for medical professionals (Physicians=84, Dentists=85, Optometrists=87, Podiatrists=106, Practitioners=89, Nurses=95, and Physician’s Assistant=106) have been coded together to create one variable for Medical Professional (n=97). The ‘n’ for the sample of medical professionals is much smaller because only a handful of medical professionals answered the questions asked on the scales created for the dependent variables. This research utilizes the $p < .05$ level because despite the sample size being large (n=4,722), the group of medical professionals is small (n=97). The occupation variable comes from Appendix F in the GSS which classifies the occupation of each respondent. The occupation code has been coded on three separate occasions: 1970, 1980, and 2010. For this study, the 1980 occupational code is utilized, because it covers the years needed. This study created a new variable for medical professionals because it is looking at the race/gender attitudes that medical professionals hold compared to all other professions. Having the dependent variable be regarding medical professionals only; this study is able to maintain proper comparison between medical professionals racial/gender attitudes and biases compared to other occupations.

Education (in years) will be controlled for (n=4,722). Education (the Degree variable in the GSS) will be controlled for because it could be argued that the main demographics of medical professionals are white males who are of high socioeconomic status (Cottingham et al. 2018). The degree variable is coded as individuals highest degree, starting with Less Than

Highschool, High School, Junior College, Bachelor, and ending with a Graduate degree. Medical professionals tend to be well-educated individuals who do not express overtly racist or sexist attitudes. However, considering this is a diverse sample size of medical professionals and not just doctors, education may vary. By controlling for education this study is able to see whether or not education is affecting how racist or sexist medical professionals are. Lastly, by controlling for education, this study is accounting for white affluency.

Dependent Variables. Within this study the dependent variables are a racial antagonism scale and sexist (pro-natal) attitudes scale. The racial antagonism scale is made up of three GSS variables all asked in 2000-2014. The scale is from 1-10, 1 being least racially antagonistic and 10 being most racially antagonistic. The Cronbach's Alpha for this scale is .584 which is moderately reliable. The work your way up variable (n=4,722) asks respondents: "Irish, Italians, Jewish and many other minorities overcame prejudice and worked their way up. Black individuals should do the same without special favors." This variable has been reverse coded as, *1-Disagree Strongly, 2-Disagree Somewhat, 3-Neither Agree nor Disagree, 4-Agree Somewhat, 5-Agree Strongly*. This variable was reserve coded so the most racially antagonistic attitudes from respondents was coded the highest. The natural race variable (n=4,722) asks respondents, "Are we spending too much, too little, or about the right amount on improving the conditions for Black individuals?" This variable is on a scale from *1-Too Little, 2-About Right, 3-Too Much*. The affirmative action variable (n=4,722) asks respondents, "Some people say that because of past discrimination, Blacks should be given preference in hiring and promotion. Others say that such preference in hiring and promotion of Blacks is wrong because it discriminates against whites. What about your opinion -- are you for or against preferential hiring and promotion of black individuals?" on a Likert scale of *1-Strongly Support Preferential Hiring, 2-Support*

Preferential Hiring, 3-Oppose Preferential Hiring, 4-Strongly Oppose Preferential Hiring. All variables are ordinal and were asked in 2000-2014.

The sexist (pro-natal) attitudes scale is comprised of two GSS variables asked between 2000-2014. The sexist (pro-natal) attitudes scale deals with natal attitudes held by respondents. This scale is 7 points, 1 being least sexist and 7 being most sexist. The Cronbach's Alpha is .555 which is moderately reliable. The first variable regards mothers who are working (n=4,722). This variable asked respondents, "A working mother can establish just as warm and secure a relationship with her children as a mother who does not work." Respondents answered the statement with either *1-Strongly Agree, 2-Agree, 3-Disagree, 4-Strongly Disagree*. The second variable asks if it is better for a man to work and women attend to the home (n=4,722). This variable has been reverse coded so most sexist attitudes score highest. The question states, "It is much better for everyone involved if the man is the achiever outside the home and the woman takes care of the home and family." Respondents answer from *1-Strongly Disagree, 2-Disagree, 3-Agree, and 4-Strongly Agree*. The sexist (pro-natal) attitudes scale questions were asked through 2000-2014 on split ballots A and B. Because they were asked on Likert scales, they are ordinal.

This study has created a racial antagonism and sexist (pro-natal) attitudes scale to try and understand more covert versus more overt gender and racial biases held by medical professionals. Because most medical professionals are well educated, the chances of medical professionals sharing overt racial and/or gender biases are small. The scale accounts for implicit attitudes/biases held by medical professionals. Even if they do not score highest on the scale, the most minuscule of biases could possibly affect the care, and thus the lives, of black and female-identifying individuals.

FINDINGS

Univariate Findings. The independent (recoded) variable for medical professionals is nominal (with medical professionals occupation equaling 1 and any other occupation equaling 0). Table 1 shows that 2.1% of the respondents were medical professionals. The standard deviation from the mean is .142.

The dependent variable, racially antagonistic attitudes held by each respondent, is a 10-point ordinal scale. Table 1 represents the mean value of 7 with a standard deviation of 1. Regarding the standard deviation, none of the variables are highly skewed, there is a slight deviation from the mean but that is showcasing the expansive nature of the variables (being on a 10-point scale with 1 being least racially antagonistic and 10 being most racially antagonistic). Figure 2 portrays a normal distribution. The majority of respondents answers fell closest to the middle of this scale, signifying moderately racially antagonistic attitudes.

The dependent variable, sexist (pro-natal) attitudes held by each respondent, is a 7-point ordinal scale. Table 1 represents the mean value of 4 with a standard deviation of 1. Similar to the racial antagonism scale, there is only a slight deviation from the mean. Figure 3 portrays a slightly right skewed distribution but ultimately a normal distribution of the data. The majority of respondents fell closest to least sexist responses (1 being least sexist, 7 being most sexist).

***Insert Table. 1 about Here ***

Insert Figure. 1, 2, 3 about Here

Bivariate Findings. Sexist (pro-natal) attitudes and respondents occupation (dummied as 0=other profession, 1= medical professional) hold a statistically significant relationship at the $p < .05$ level. As showcased by Table 2, it is a negative relationship and a weak magnitude ($r = -.06$). The relationship between sexist attitudes and medical professionals means that those who

are medical professionals are less likely than other professions to be sexist/hold pro-natal attitudes, however this relationship is weak. Additionally, there is no significant relationship between being a medical professional and racial antagonism.

Showcased by Table 2, sexist (pro-natal) attitudes and respondents highest degree hold a statistically significant relationship at the $p < .05$ level, it is a negative relationship and a weak magnitude ($r = -.20$). The relationship between sexist attitudes and respondents highest degree showcases that those with a lower degree are more likely to hold sexist (pro-natal) attitudes compared to those with a higher degree.

As seen in Table 2, racial antagonism and respondents degree hold a statistically significant relationship at the $p < .05$ level, it is a positive relationship and is a weak magnitude ($r = .19$). The relationship between racial antagonism and degree means that those who hold a higher degree are more racially antagonistic than those who hold a lower degree. The magnitude is lower here because the sample has a diverse group of medical professionals, varying in amount of education.

Insert Table. 2 about Here

Multivariate Findings. As showcased by Table 3, the regression for the racial antagonism variable explains 4 percent of the variation within the model ($R^2 = .04$), the regression for sexist (pro-natal) attitudes explains 4.5 percent of the variation within the model ($R^2 = .045$). The regression equation (F -test) is statistically significant for both the racial antagonism scale and the sexist (pro-natal) attitudes scale at the $p < .05$ level.

As shown by Table 3 the relationship between medical professionals and the sexist (pro-natal) attitudes scale is statistically significant at the $p < .05$ level. Controlling for all other variables, there is an associated negative decrease ($b = -.44$) on the sexist (pro-natal) attitudes

scale ($p < .05$). Meaning, medical professionals are more likely than other professions to score lower on the sexist attitudes scale. Additionally, controlling for other factors, there is no significant relationship between being a medical professionals and the racial antagonism scale.

Regarding the control variable (degree), Table 3 showcases that in every one unit increase for degree, there is an associated positive increase on the racial antagonism scale ($b = .235$), controlling for all other variables. Simply put, the more educated you are (the higher degree attained), the more likely you are to score higher on the racial antagonism scale. As shown by Table 3, in every one unit increase for degree, there is an associated negative decrease on the sexist (pro-natal) attitudes scale ($b = -.247$), net of other characteristics. The more educated you are (highest degree attained), the less likely you are to score high on the sexist (pro-natal) attitudes scale.

Insert Table. 3 about here

Ultimately, the regression results refuted both of my hypotheses' which are: (1) medical professionals who hold negative perceptions of Black individuals are more likely than other types of professionals to exhibit racially antagonistic biases, (2) medical professionals who hold negative perceptions of female-identifying individuals are more likely than other types of professionals to exhibit sexist (pro-natal) biases.

DISCUSSION

As shown, the data did not support my hypotheses'. Rather, the results for sexist (pro-natal) attitudes supports the opposite hypothesis, medical professionals are less likely than other professionals to showcase pro-natal attitudes. Regarding racial antagonism, the results were not statistically significant, there is no support for this hypothesis either. Implicit biases did not apply to the findings received. These findings indicate a few different possibilities. It's possible that

medical professionals are less likely to be racially antagonistic or sexist compared to other professional groups. The findings seem to indicate there to be no positive association between the two, this research could mainly just be wrongful speculation. However, there is more of a story here than what meets the eye. First and foremost, the literature does not showcase the same as the results. Literature shows that medical professionals tend to showcase racially antagonistic and sexist biases within their care (Cooper et al. 2012; Druckman et al. 2018; Cottingham et al. 2018; FitzGerald and Hurst 2017; Sabin et al. 2009; Malat et al. 2010; Penner et al. 2010; Hagiwara, Dovidio, Eggly, and Penner 2016; Peck and Conner 2011; Stivers and Majid 2016; Adams et al. 2017; Bertakis et al. 2012; Street et al. 2007). Despite there not being quantitative support of my hypotheses' from the current research, past literature that has utilized the framework of implicit biases and have had outcomes similar to my hypotheses', excluding comparison to other professions (Cooper et al. 2012; Druckman et al. 2018; FitzGerald and Hurst 2017; Sabin et al. 2009; Penner et al. 2010).

Secondly, it may be evident that this research is still holding tightly to the idea that medical professionals are more biased compared to other professional groups. This is because of the sheer impact medical professionals have upon their patients. The power dynamic between patient and provider is skewed towards the provider. Even if there isn't a statistically significant number of providers being biased within care, biased care still exists and can put female-identifying and Black lives into jeopardy. For example, the current COVID-19 pandemic has stressed racial disparities and has left Black and Latinx populations more vulnerable than white populations to the disease due to structural racism (Louisas and Marrast 2020). Although not an empirical study, Louisas and Marrast (2020) stress the damaging effect COVID-19 has had on Black and Latinx communities, this effect is lasting and pervasive given how highly contagious

COVID-19 is. Louisas and Marrast (2020) stress that Black and Latinx communities health have always been at a greater risk than white communities. This is due to structural and institutional racism within the healthcare industry and the United States as a whole. The pandemic has merely stressed and catalyzed an existing issue in the western world. Structural racism within medicine is also affected on an interpersonal level, with biases held by medical professionals in their relationships with patients (Louisas and Marrast 2020). Louisas and Marrast (2020) highlight how those biased relationships help keep systems of white domination in play. The current pandemic makes this research more urgent. Despite not being statistically significant, we have all seen the greater effects medical biases during the COVID-19 pandemic (along with other factors) have had on marginalized communities. It's possible medical professionals aren't more biased than other professionals groups, but their biases have a last impacting on marginalized communities physical health. Which in turn, make biases held by medical professionals more cumbersome than other professions.

The past literature has only looked at general care physicians, the current study adds a more diverse sample of medical professionals. The medical professionals within the sample were: Physicians, Dentists, Optometrists, Podiatrists, Practitioners, Nurses, and Physician's Assistant. By looking at a diverse sample of medical professionals, the prominence (or lack thereof) of white affluency becomes clear. Previous research looked solely at primary care physicians, who tend to be white affluent males (Sabin et al. 2009; Cottingham et al. 2018). Because of having a lack of intersecting identities with marginalized individuals (in this case, female identifying individuals and Black individuals), primary care physicians are more likely to hold implicit biases than other professions (because the field is dominated by white males) (FitzGerald and Hurst 2017). However, when adding other medical professions to the mix in the

current research, it is evident that with more diverse identities present, it is less likely for medical professionals of marginalized identities to hold implicit biases towards female-identifying and Black individuals. For example, Cottingham et al. (2018), showcases that nursing is predominately women, and a substantial amount of those women are women of color. When holding marginalized identities similar to patients, less biased care is applied (FitzGerald and Hurst 2017). Ultimately, the current research adds to prior research because it utilizes a more diverse group of medical professionals, which changes how implicit biases are held.

Limitations. The main limitation of this study is the re-coded 1980's occupational independent variable for medical professionals. First, despite the sample being n=4,772 individuals, there were only 97 medical professionals who participated in the survey between 2000-2014. Having a small sample may have had an effect on the statistical power of the racial antagonism and sexism (pro-natal) attitudes scales. If the sample size was larger, there would have been a more sizeable group of medical professionals to sample from. Additionally, there was a multitude of medical professionals studied within the current research, not just general care physicians like the majority of previous literature. The medical professionals within the sample were: Physicians, Dentists, Optometrists, Podiatrists, Practitioners, Nurses, and Physician's Assistants. Nurses made up a large portion of the sample. I propose this is what caused the results for sexist (pro-natal) attitudes to support the opposite of my hypothesis. According to previous literature, the field of nursing is dominated by women (Cottingham et al. 2018). Because of this, the sample could have been skewed and thus there were fewer sexist attitudes represented since the sample was mainly women, who tend to be less likely to hold sexist/pro-natal attitudes (FitzGerald and Hurst 2017).

Regarding the hypothesis centering racial antagonism, this was wholly refuted. Implicit biases, as explained by Cooper et al. (2012), tend to be nonspecific/nonverbal acts of communication, being very hard to record on a personal survey. The racial antagonism (and the sexist pro natal attitudes) hypothesis would have benefitted from a different form of research. For example, interviews or watching a recorded patient-provider meeting to account more for nonspecific/nonverbal acts of communication.

CONCLUSION

This research posed the question: compared to other professions, do medical professionals hold predisposed racial and gender biases? This research utilized the General Social Survey Data ranging from 2000-2014. The dependent variables in this study were a racial antagonism scale (comprised of three GSS variables) and a sexist (pro-natal) attitudes scale (comprised of two GSS variables). The two hypotheses' were: (1) medical professionals who hold negative perceptions of Black individuals are more likely than other types of professionals to exhibit racially antagonistic biases, (2) medical professionals who hold negative perceptions of female-identifying individuals are more likely than other types of professionals to exhibit sexist (pro-natal) biases. Ultimately, both of these hypotheses' were refuted. The findings showcased that medical professionals are less likely than other professions to exhibit sexist (pro-natal) attitudes. This may have to do with the diverse sample of medical professionals (not just general care physicians, who tend to be white and male) within the current research. A survey with a large enough sample to examine only physicians may have found quite different results. Regarding the hypothesis centering racial antagonism, this was refuted. Past literature supports the racial antagonism hypothesis but given the survey format instead of an experimental format, it was more difficult to measure implicit biases within the current research.

For purposes of analysis, race and gender biases had to be handled separately. However actual humans hold intersecting identities that aren't separated by race and gender (i.e. there are Black women, not just people who are black and people who are women). By separating intersecting identities in the current research, part of the story is lost. As established, physicians tend to be white and male (Sabin et al. 2009; Cottingham et al. 2018) and nursing tends to be dominated by women, a large number of those women being women of color (Cottingham et al. 2018). This current research is missing the intersection between two marginalized identities that were studied, Black women. One possibility may be that if there were more Black women present within the medical field, there would be less biases because of their lived experiences within their identity (FitzGerald and Hurst 2017). This logic was showcased within the refuting of the hypothesis regarding pro-natal attitudes, medical professionals were less likely than other professional groups to exhibit sexist (pro-natal) attitudes, due to their being a multitude of nurses (who tend to be female) within the sample. However, this logic was not showcased for the racial antagonism hypothesis, I attribute that to the types of medical positions Black women hold. Possibly, if there were more Black women, who held influential positions in medicine (doctors, surgeons, etc.), there would be less racially antagonistic biases and sexist (pro-natal) attitudes within medicine. Not to say that nursing is not an important role within healthcare, but the power dynamic between nurses and doctors is stark, with doctors being more influential in the larger field of medicine than nurses (Cottingham et al. 2018). The current institution of medicine helps reinforce white supremacy, making it difficult for non-white individuals to thrive and climb the ranks within the system. Not only is education of cultural competencies (Mackenzie et al. 2019; Metzler et al. 2017) necessary for less biases within medical care, but the introduction of the importance of having a diverse medical staff (in *all* positions within medicine) is necessary to

reduce biases in care. However, to introduce a more diverse medical staff, the culture of white supremacy within medicine needs to begin to be dismantled (Malat et al. 2010; Cottingham et.al 2018). For a more equitable future within medicine, white medical professionals need to be educated on larger structural issues effected by their interpersonal relationships. And thus take part in dismantling the systems of white supremacy within medicine (Cottingham et.al 2018; Mackenzie et al. 2019; Malat et al. 2010; Metzl et al. 2017).

This research has a greater effect on the social world because medical care is necessary for living long and fruitful lives. When marginalized groups receive worse care than those who hold a majority identity (white males), their lives could possibly be put into jeopardy. Further research should be done within this topic. A continuation of this research that would garner fruitful results is having the study be a non-survey format. Possibly recording medical professionals interactions with patients and analyzing them for implicit biases, and then comparing those to other occupations interactions between customer and provider. When having a clear framework set about what implicit biases are, it is easier to recognize non-conscious attitudes of others (Sabin et al. 2012). This research may have refuted my hypotheses', but this had to do with the sample size limitations and diversity of medical occupations within the sample. Past literature, which tended to look only at general care physicians/doctors, received findings of biases within care similar to my hypotheses' (Cooper et al. 2012; Druckman et al. 2018; FitzGerald and Hurst 2017; Sabin et al. 2009; Penner et al. 2010). This topic is extremely relevant, given the current COVID-19 pandemic. But it is also important in a more general sense, the health and well-being of Black and female-identifying individuals is put into jeopardy by medical professionals who have been poorly trained within the social aspects of care.

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TABLES AND FIGURES

Table 1. Means, Medians, and Standard Deviations for Variables (N=4,722)

Variable	Mean	Median	SD
Medical Professionals	.021	.00	.142
Gender Attitudes	4.33	4.00	1.441
Race Attitudes	7.11	7.00	1.400
Degree Attained	1.59	1.00	1.190

Table 2. Correlations (r) between Racist and Sexist Attitudes and Two other Variables (listwise deletion, two-tailed test, $N=4,722$)

Variable	Sexist Attitudes (Pro-Natalist)	Respondents Occupation (Medical Professional)	Respondents highest degree
Racist Attitudes (Racial Antagonism)	-.025	.007	.198*
Sexist Attitudes (Pro-Natalist)		-.064*	-.208*
Respondents occupation (Medical Professional)			.100*

* $p < .05$

Table 3. Regression of Racial Antagonism and Pro-Natalism effects on Medical Professionals and Education.

	Racial Antagonism Scale (1= least antagonistic, 10=most antagonistic) <i>b</i>	Racial Antagonism Scale (1= least antagonistic, 10=most antagonistic) β	Pro-Natal Gender Attitudes Scale (1= least sexist, 7-most sexist) <i>b</i>	Pro-Natal Gender Attitudes Scale (1= least sexist, 7-most sexist) β
Medical Professionals	-.132	-.013	-.44	-.043*
Degree	.235	.200*	-.247	-.204*
Constant	6.74		4.726	
R^2		.04		.045
$F (24,719)$		97.187*		111.557*

* $p < .05$

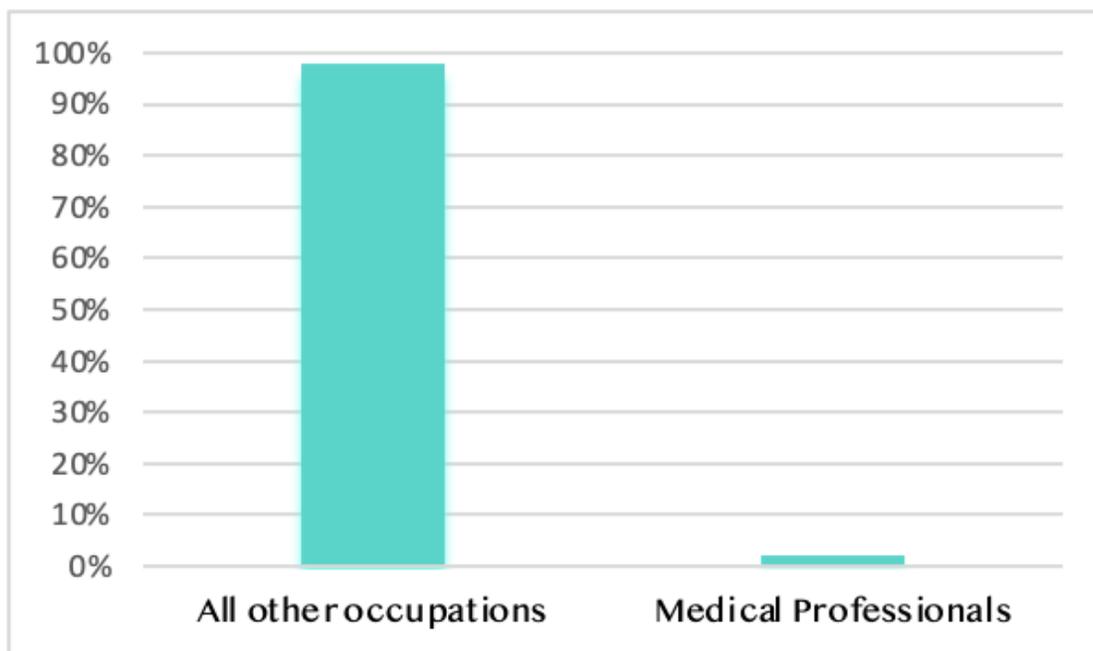


Figure 1. Bar Chart of Medical Professionals (n=97)

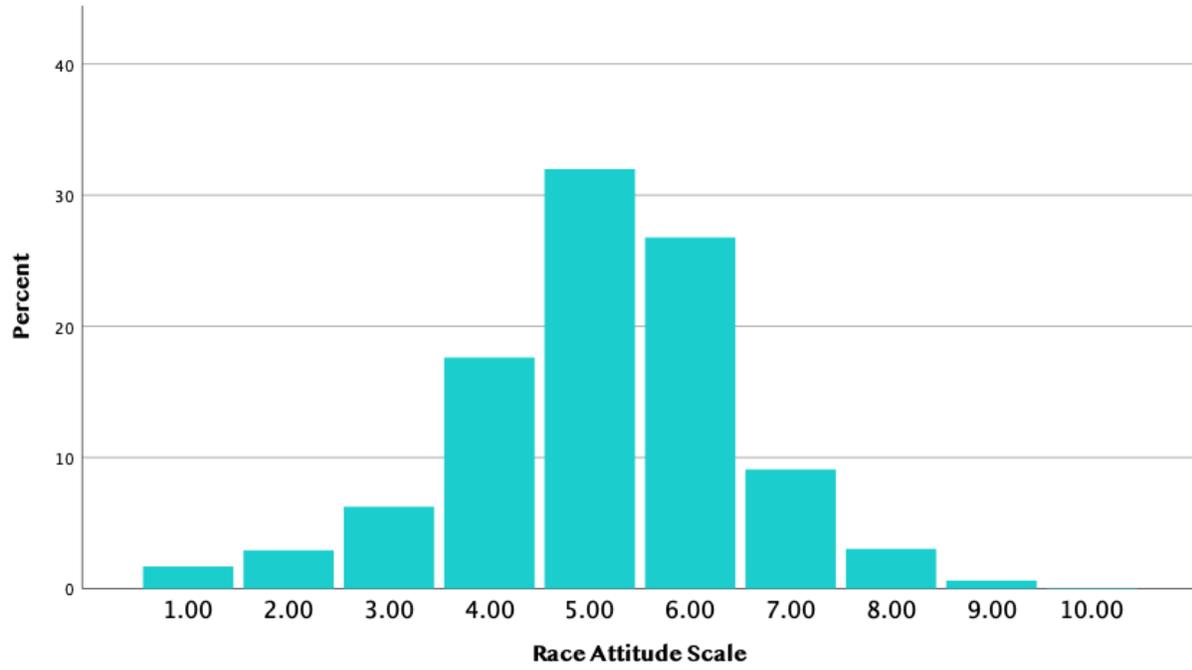


Figure 2. Histogram of Race Attitudes (n=4,722)

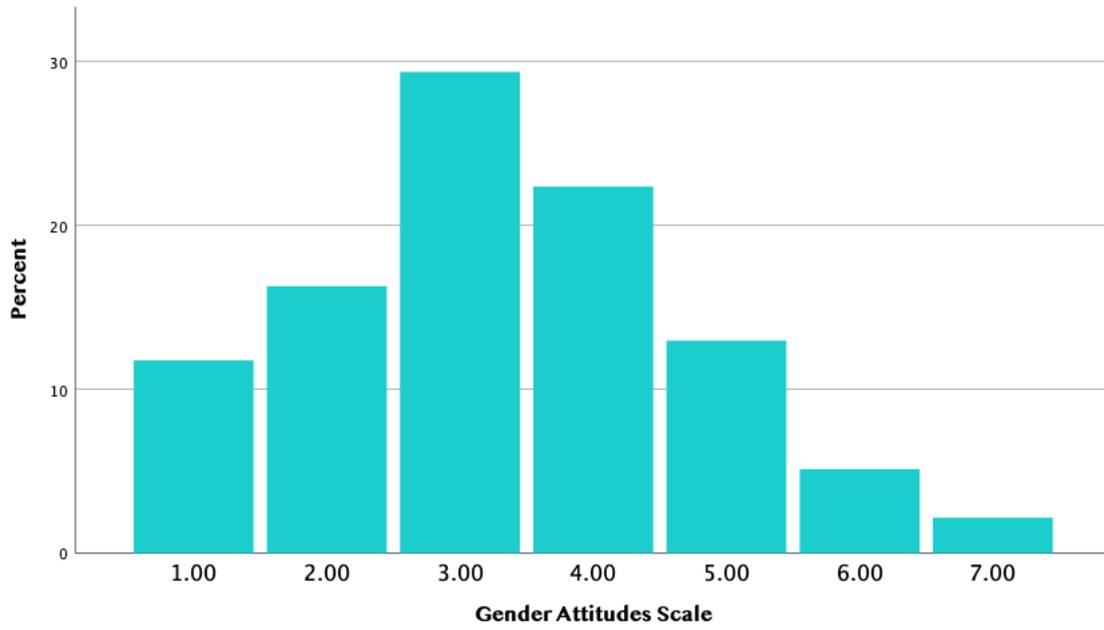


Figure 3. Histogram of Gender Attitudes (n=4,722)