Spring 2020

Making Health Education Healthier: How Medical Schools Use Bias Training and Intersectional Theory to Reduce Implicit Bias

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Keywords

Medical Bias, Feminist Theory, Intersectionality, Medical School, Education

Disciplines

Feminist, Gender, and Sexuality Studies | Inequality and Stratification | Medical Education | Medicine and Health Sciences

Comments

Written for WGS 400: WGS Capstone Seminar

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Abstract:

Medical bias has been successfully characterized through two-way bias theory and the concept of the "normal body" and further divided into implicit and explicit bias. Yet, many individuals who go to the doctor are still given insufficient care because of their gender, race, class, sexuality, etc. Medical Education offers a unique opportunity for bias reduction both through formal and informal training. It is crucial that, as they are taught how to save a patient's life, medical students are also taught to empathize with all patients and to give every patient, regardless of their gender, skin color, or class, the most optimal care possible. Non-bias training has been integrated into medical schools in hopes of combatting this issue, yet results have been mixed. I conducted an evaluation of the bias education material of two Pennsylvania medical schools in light of five pedagogical strategies for effective bias reduction that I gleaned from a review of the relevant literature. These strategies are: promoting a safe space, promoting self-awareness of bias, teaching the science behind implicit bias, exploring the effects of bias on health outcomes, and creating an emotional link between patients and practitioners. My study reveals that medical schools' approaches do draw from intersectional feminist insights, such as epistemic humility, but are quite inconsistent between schools. These results indicate incongruities between medical bias reduction research, and its practice, and provide evidence for the need for further research.

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Introduction:

Being ill, especially now, is a terrifying scenario. Yet for some, their fear is situated beyond their illness into their ability to get sufficient care. Even when patients are able to access and afford hospital care, their care may be inadequate because of their skin color, gender, sexuality, etc. This insufficiency in care can result in a lack of pain management or even death. The most horrifying part of this experience for the patient is that their physicians harbor bias that is completely implicit: they do not even recognize their own bias. How secure would you feel to put your life in the hands of a medical professional who might unwittingly let you bleed out because of assumptions based on your race? These are the real implications of medical bias, and the reasons why physicians need to be trained to erase both their implicit and explicit bias.

Medical bias has been defined and recorded in both scientific and humanities literature for the past 35 years since the first U.S. governmental action against medical bias was enacted with the publishing of the Heckler Report (1985). This "Report of the Secretary's Task Force on Black and Minority Health" presented data on health disparities in the U.S. and made recommendations for how to lessen these disparities. Despite this, many individuals who go to the doctor are still given insufficient care because of their gender, race, class, sexuality, etc. These insufficiencies demonstrate how the initiatives to erase medical bias have been severely lacking. Arguably, one of the best places to confront medical bias is in the cultivation of our young physicians. It is crucial that, as they are taught how to save a patient's life, they are also taught to empathize with all patients and to give every patient, regardless of their gender, skin color, or class, the most optimal care possible. Non-bias training has been integrated into medical schools in hopes of combatting this issue, yet it has resulted in mixed outcomes.

In this paper, I explore what actions two medical schools in Pennsylvania have taken in order to reduce bias in their students and how these initiatives compare to previous research on the effectiveness of various bias-reduction strategies. I then analyze how this bias training fits within the context of an intersectional framework. It is impossible to analyze one individual population's experiences of medical bias without including all intersections of race, class, sexuality, etc. into medical bias. I accomplished this by examining workshop materials and other teaching aids of bias reduction efforts at these schools. Through the investigation of medical bias literature, I was able to identify five main strategies for successful medical bias reduction programs that I then utilized as criteria to evaluate the two schools' material. Successful programs all 1.) promote the creation of a safe space, 2.) foster self-awareness, 3.) educate in the science of bias, 4.) explore the outcomes of bias, and 5.) foster an emotional link between students, and minority communities. These five strategies were then used as criteria to assess the formal medical bias training at both institutions. This case study performed on two schools provides insight into the variability of medical bias training.

Medical Bias, Feminist Theory, and Intersectionality:

Historically, marginalized social groups face oppression in many aspects of social life. This oppression is particularly dangerous in a field such as medicine, where life and wellbeing are on the line. Medical biases have been explored as related to race (Glance et al. 2013; Hoffman et al. 2016; Khosla et al. 2018; Stone & Gordon 2011; Williams 1999), gender (Buchman et al. 2017; Hamberg 2008; Johansson et al. 2009), sexuality (Sabin et al. 2015), and other aspects of difference. Medical bias consists of both explicit and implicit bias (Sabin et al. 2015). Even when physicians work to remove their explicit bias, their implicit bias remains (Phelan et al. 2015). This means that, even though they may no longer consciously treat a patient differently because of their ethnicity, subconsciously their implicit bias may cause this discrepancy. Implicit bias is defined by its unconscious nature, and mere introspection is not enough to erase its effects. The invisible nature of this covert bias makes it even more dangerous than explicit bias. However, it is important to note that medical bias against black patients and other minorities is also related to hospital availability and socioeconomic factors beyond provider discrimination. This includes quality of care and lack of resources in hospitals present in communities of color (Glance et al. 2013; Williams 1999). The outcomes of medical bias can range from being under-prescribed pain relievers (Buchman et al. 2017; Hoffman et al. 2016) to resulting in higher mortality rates because of dismissed blood loss (Glance et al. 2013).

Since the effects of medical bias are so dire, various initiatives have been undertaken to lessen medical bias. In fact, both governments and medical institutions have worked to reduce this bias (Anderson et al. 2019; Dovidio et al. 2004; Smith et al. 2007; U.S. Department of Health & Human Services 1985). In 1985 the U.S. Department of Health and Human Services published *The Report of the Secretary's Task Force on Black and Minority Health* a.k.a. the

Heckler Report. This report outlined disparities in minority health care and proposed recommendations for change as established by experts. This report brought health disparities to the forefront of the nation's mind and created change at all levels of government and policy (1985). Unfortunately, this report did not have the desired effect and many of their proposals have yet to be implemented. These recommendations included the expansion of medicare, increasing minority access to healthcare, increasing collaboration between health providers and the government, and improving data in healthcare (U.S. Department of Health and Human Services 1985).

More recently, Anderson et al. (2019) explored how, in California, lawmakers recognized the risk of medical bias to women undergoing childbirth. California was experiencing many maternal deaths due to preventable blood loss, as physicians assumed women's safety because of the natural process of birth. This resulted in many instances of preventable hemorrhaging in women after giving birth. As a result, California hospitals created guidelines of care that recommended switching caretaker's mindsets from assumed safety to assumed risk. In addition, hemorrhaging tool kits were adopted in every delivery room and all lost blood and bloodied rags were weighed with a scale to quantitatively measure the risk to the new mother. These new medical procedures along with the push by the California Maternal Quality Care Collective to promote change resulted in all maternal death rates in the state of California being cut in half. It is the change of mindset towards essential risk that made such a difference. It did not even address any medical bias on the part of practitioners. Instead, the system recognized the presence of bias and made a change to ensure that the proven effects of bias were lessened. Imagine the changes that could occur if the practitioners themselves changed and not just their procedures.

The "Normal Body", The Mythical Norm, and Two-Way Bias:

Gender bias in medicine is derived from the idea of the "normal body", which Hamberg identifies as the male body. However, as explored by Hamberg, this "normal" body is also imagined as white, cis, heterosexual, as well as male (2008). The bodies of oppressed groups are compared to this "normal" body, which Audre Lorde further qualifies as "mythical" as it is this idealized status that holds power and directs oppression (1984). Discourse and norms around this "normal" body create a hierarchy in society which positions white heterosexual cisgender men above minorities.

From this idea of the "normal body" comes the idea of two-way bias. Two-way bias is formed based on the relation of minorities to this "normal body". While two-way bias was originally theorized for gender bias, I argue that this theory can be applied to all medical biases (Hamberg 2008; Johansson et al. 2009). The first component of two-way bias consists of erasing and/or ignoring difference. In other words, seeing two bodies of different gender, race, sexuality, etc., one of which is the "normal body", as being similar, both physically and psychologically, when they are not. The second component perceives differences when there are none. Hoffman et al. found that medical bias, rooted in this misunderstanding of biological similarities and differences, prevails even in highly educated medical practitioners (2016). To look at bias as one dimensional is reductive of its complexities.

Women's Studies & Intersectionality:

The intersection of gender with other social vectors of identity and inequality, introduced by Kimberlé Crenshaw, is crucial to my research (1990). This entails recognizing the intersectional nature of oppression and privilege, as well as of bias, and therefore of bias training.

Due to the interlinked nature of bias, bias training is also impossible to fully analyze without looking at all forms of bias. Working to unravel the knot of intersectionality in medical bias is beyond the scope of this project. Various groups of people experience intersecting oppressions that result in intersecting biases. If I were to focus on only medical bias against women, that would effectively make my project about white cis straight middle-class women and would exclude all other women as it would not fully encompass their experiences. This is because a focus on women does not work to dismantle the web of oppression surrounding women with other biases against them. Cheema et al. recognize how essential an intersectional lens is in erasing the previously mentioned "normal body" and in recognizing the importance of promoting silenced narratives (2019).

This project is focused on bias, not simply gender bias, to accomplish the goals outlined by Cheema et al. Just as my approach to this research needs to be intersectional, it is essential to instill an intersectional framework in future clinicians. As Cheema et al. (2019) and Wilson et al. (2019) have noted, intersectionality cannot simply be memorized by medical students, it is an essential lens for the interpretation of social realities. Clinicians' use of this framework would help decrease bias in healthcare as this framework requires an understanding of two-way bias, and encourages empathy with the patient (Wilson et al. 2019).

Reducing Bias Through Education:

Activists have repeatedly recognized the need to train medical students to erase their bias (Brottman et al. 2019; Burke et al 2017; Czopp et al. 2006; Goddu et al. 2018; Gonzalaez et al. 2019; Gonzalez et al. 2019; Hannah & Carpenter-Song 2013; Phelan et al. 2015; Stone & Moskowitz 2011; Sukhera & Watling 2018; Van Ryn et al. 2015). While most medical schools

have bias reduction initiatives in action, the failure of these programs is mainly attributed to a lack of trained and knowledgeable faculty (Brottman et al. 2019; Goddu et al. 2018), as well as a lack of diversity on campus and in educational simulations (Burke et al. 2017). Overall, these failures can be attributed to a lack of informal training. Informal training is performed not in a classroom, as is formal training, but is conducted through example and practice. For example, during rotations in the third and fourth years of medical school. This form of training also helps in removing implicit bias from students, which is the most dangerous form of bias (Hannah & Carpenter-Song 2013). This is especially true since medical schools have been found to reduce explicit bias, but increase implicit bias in students (Phelan et al. 2015). Removal of implicit bias is accomplished by creating relations between majority group students and minority groups, through diverse peers, faculty members, and patients (Stone & Moskowitz 2011). This exposure to diverse groups is applicable in all types of bias and is not reliant on the minority group's advocacy, but rather their presence alone (Stone & Moskowitz 2011). Other aspects such as the students' anticipation of shame from authority figures about their biases (Gonzalez et al. 2019) and the resulting need for professors to create a safe place of learning (Hannah & Carpenter-Song 2013) are also necessary for the effectiveness of bias training in this setting.

This Study:

Research and literature on bias training suggest that researchers have established effective formal education systems that effectively address bias in health care. But does this literature suggest that medical schools have successfully integrated this research into their formal curriculum, or does it simply say that effective measures to erase bias through formal education exist and *COULD* be utilized? The continued existence of medical bias and the lack of

improvement over the years suggest that these changes have been recommended but not implemented. It is my goal to discover whether the methods of bias reduction shown in this vast literature are actually used in medical education, or whether they have fallen on deaf ears. To this end, I have established guidelines or strategies for effective formal medical bias training gathered from the literature.

Five Strategies for Effective Medical Bias Training As Evaluation Criteria:

Despite the lack of literature on implemented formal bias training, there are a few proposals for formal training that are consistent across the literature. However, it is important to recognize that despite the plethora of recommendations, there is no one accepted method of bias training (Smith et al. 2007). Instead, I have compiled a set of five strategies by which to reduce bias common across the literature. First, facilitators need to create a safe space without incessant blaming, although a good amount of self-reflection and responsibility-taking with regards to students' own privilege is essential to change-making (Czopp et al. 2006; Brottman et al. 2019; Gonzalez et al. 2019; Sukhera and Watling, 2018). However, it is important to also acknowledge that many view guilt as paralyzing and preventing change-making. This lack of consensus is important to recognize as schools work to establish their own methods of formal training as informed by the literature.

Second, facilitators need to promote self-awareness in participants about their own bias and their interactions with patients. We see here why students need to acknowledge their privilege, which plays into the necessity for a small amount of blame (Smith et al. 2007; Stone and Moskowitz, 2011; Brottman et al. 2019; Gonzalez et al. 2019; Hannah & Carpenter-Song, 2013; Sukhera and Watling, 2018). Third, faculty need to teach the science behind implicit bias

in order to dismantle the basis of two-way bias (Smith et al. 2007; Brottman et al. 2019; Sukhera and Watling, 2018). Fourth, they need to help students explore the effects of bias on health outcomes (Brottman et al. 2019; Sukhera and Watling, 2018) which helps to develop the fifth: creating an emotional link between the student and members of an oppressed group (Dovidio et al. 2004; Dyrbye et al. 2019; Buchman et al. 2017; Stone and Moskowitz, 2011; Brottman et al. 2019; Burke et al.2017; Sukhera and Watling, 2018; Van Ryn et al. 2015). These five mechanisms exemplify the most effective strategies for formally reducing bias and as such are essential to the proper analysis of medical schools' medical bias training. They will serve as criteria in my study evaluating two Pennsylvania medical schools' bias training initiatives.

Epistemic Humility:

It is essential to stress the importance of epistemic humility in medical students, especially as epistemic humility is integrated into the five main strategies of formal bias education. This idea is based on epistemic injustice, which is when knowledge and testimonials are seen as less valid when produced by minorities. This privileging of information from hegemonic sources results in an imbalance in who gets to generate knowledge, and in testimonials of painful experiences being dismissed. Epistemic humility is the recognition of one's own position as a privileged knowledge generator (Buchman et al. 2017). Epistemic humility allows the recognition of various types of knowledge outside of the classically recognized knowledge production methods and individuals. Using this strategy not only allows for the use of testimonials and other non-classical methods of knowledge creation, but it allows members of minority groups to be these knowledge producers. This concept informs the five factors of medical bias reduction training I explore in this paper. One of the five factors is the

ability to recognize one's own involvement in bias and another is the creation of an emotional link between the minority group and student. These two factors work perfectly with this idea of epistemic humility as it encourages medical students to recognize their own involvement in epistemic injustice. Subsequently, students will also begin to accept the knowledge created by minority groups, leading to empathy and understanding. Because of the importance of this concept to the five criteria of medical bias training, epistemic humility will be assessed in both schools.

What I am Studying:

Through this paper, I am performing a study of the formal bias training of two medical schools in Pennsylvania. While medical bias literature suggests that informal training is the most important form of training, this training is often preceded by formal training. Due to time and resource constraints, informal training is outside the scope of this research. However, I will use the information available to me to try to connect this formal training to a minimal approximation of each school's informal training. In order to properly evaluate informal training, a lengthy integrated experiment would be required. However, information on staff and student diversity is available online and will be incorporated into my results to provide some minimal insight into informal training at these institutions. Van Ryn et al. (2015) emphasize the importance of having a diverse student body and staff to form the aforementioned emotional bonds and to decrease the number of insensitive comments that have such an extensive impact on student bias, as shown in Goddu et al. (2018), Burke et al. (2017), and Brottman et al. (2019). Therefore, it might be inferred that the diversity of the student body and that of the faculty are correlated to a certain degree with informal bias training and, as such, with a decrease in bias. While this information

is not a conclusive analysis of the everyday comments and actions of faculty and students and their interactions with women and minority groups, it can help to give an insight into the effort to increase informal training. This allows for the comparison of formal training with the general impression of informal training as performed by Van Ryn et al. (2015).

In order to get a comprehensive view of bias training in medical schools while keeping in mind the limitations of my research scope, I only requested documents for formal bias training from schools in Pennsylvania. This allowed convenience and a look into neither a particularly liberal, nor an extremely conservative state. I contacted the seven schools in Pennsylvania (Drexel University, Geisinger Commonwealth, Lewis Katz School of Medicine, Pennsylvania State University College of Medicine, Perelman School of Medicine, Sidney Kimmel Medical School, University of Pittsburgh, Philadelphia College of Osteopathic Medicine, and Lake Erie College of Osteopathic Medicine), two of which were gracious enough to respond with a large amount of bias training documents. I will call them Public School and Private School to protect their identities. The documents received from these schools include workshop outlines, powerpoints, workshop facilitators guides, and worksheets that may or may not be integrated into the curriculum of first and second-year medical students. Only first and second-year training materials are used because this is the period of formal education in medical school, which is the educational timeline that I have chosen to investigate. To analyze different approaches to bias training or lack thereof, I evaluated these courses and workshops in order to discover the school's approach to bias. Interviewing school faculty and staff could have introduced a biased perspective of the materials and confounded my data. In these pages, I hope to provide a careful analysis of these schools' bias programs in light of the five key criteria for successful formal bias reduction training as drawn from the literature.

It is also important to recognize the potential for bias in any qualitative research. Feminist Standpoint Epistemology (Donna Haraway, 1988; Naples & Gurr, 2007) fully recognizes the positionality of the researcher and the inherent bias of each individual. This epistemological stance encourages reflexivity on my position as a white woman in a place of privilege with pre-formed notions on the role of medical schools in bias elimination. While acknowledging the standpoint of the researcher, this epistemology also acknowledges the importance of difference. This matches well with my hopes for an intersectional approach.

The two schools I am researching are both allopathic medical institutions located in Eastern Pennsylvania. Public School is a public institution with 663 enrolled students across all 4 years in a suburban environment (MSAR, 2008 [2019]). In comparison, Private School is privately run with 455 students across all years of training set in an urban setting (MSAR, 2008 [2019]). We see in Table 1, that while Public School has a higher proportion of female students, Private School has more than double the percentage of minority students (15.7%) than Public School (7.23%) and a higher percentage than the national average (10.43%), although such students are still woefully underrepresented. Comparatively racial minorities represent 35.6% of the U.S. population. These variances in the school's compositions and attributes are also important to note as the context in which different approaches to formal medical bias education are adopted.

Table 1: Class of 2019 Diversity Statistics

	Private School	**Public School**	**Medical School Average**
Percent Women	**52.2%**	**61%**	**51.6%**
Percent Minority	**15.7%**	**7.23%**	**10.43%**

Source: Medical School Admissions Requirements (MSAR [2019]), 2008

Limitations:

Overall, this research project is limited by my ability to access the full scope of bias training in each school. A lot of important bias training is done informally, so it is only through identifying diversity in students and teachers that I can approximate the informal aspects to education given constraints on my time and resources. In addition, I was only able to acquire documents from two medical schools, which limits the scope and significance of my study. I am also focusing my research on medical schools in the United States, specifically in Pennsylvania, therefore, it is important to acknowledge that this research is specific to the U.S. and thus, is not a comment on global experiences, nor even of national ones. Despite its limitations, my research remains valid because there has been little to no research into school dynamics in terms of bias education as stated by Smith et al. (2007) and equally few studies on medical education that utilize a feminist lens. Exceptions include studies done on epistemic humility in medical bias (Buchman et al. 2017) and those who focus on the integration of intersectionality into medical education (Chema et al. 2019; Wilson et al. 2019). My research is also fully intersectional and does not focus on any one facet of medical bias. While this approach prevents me from delving deeply into the specificities of a given vector of identity and inequality, this intersectional approach allows me to fully grasp the complexities of medical bias and be inclusive of all individuals. These components make my study both unique and essential to the furthering of medical school bias training.

Contrasting Approaches to Bias Reduction Training:

Workshops:

I will start by analyzing the workshop materials provided by the two institutions before turning to an analysis of their incorporation of feminist theory into their methodology. Whether

these workshops are integrated into a class, as is the case at Public School, or completely separate, like Private School, they are composed of discussions and lectures centered on the reduction of bias. This method of formal bias training is easily examined and interpreted, as it is written out to help the facilitator and the students. In addition, this workshop model of training is often the focus of research and recommendations on formal bias training, so there is a plethora of information to apply when analyzing these sessions (Hannah & Carpenter-Song 2013; Sukhera and Watling 2018; Brottman et al. 2019). The commonality of the five strategies in workshop literature makes them the focal point for my analysis of these schools. I will address each of them in turn below:

Creation of a Safe Space:

The two schools have extremely different approaches to bias training, and this is perfectly exemplified by their workshops. Both schools utilize large and small group discussions and activities, which might indicate prioritization of safe spaces. However, it is important to acknowledge that I drew this conclusion without experiencing the attitude of the facilitator and the environment firsthand. As such, I cannot draw any definitive conclusions in regards to their establishment of a safe space for students. However, the focus on small group activities indicates at least an effort by both schools to create a productive learning environment.

At Private School, this non-accusatory environment is perhaps taken too far. The workshops at Private School all have a common theme of addressing each participant's own privileges and exploring the harm of adding oppressions when investigating their impact on an individual's life. However, Private School also encourages participants to use their own privilege to help others, rather than promoting the dismantling of their own privilege. This approach can be seen in this quote taken from a workshop at the Private School:

> The exercise seeks to highlight the fact that everyone has SOME privilege, even as some people have more privilege than others. By illuminating our various privileges as individuals, we can recognize ways that we can use our privileges individually and collectively to work in clinical settings and impact the level of care we provide to our patients.

This approach is non-accusatory in that it acknowledges the privilege of the individual. However, helping privileged individuals recognize their complicity or even perpetuation of the oppression of others while avoiding outright hostility, allows for guilt and self-reflection which was not done by Private School (Czopp et al. 2006). While we need to be mindful of the potentially paralyzing effect of guilt, Czopp et al. present guilt as an essential facet of change in a confronted individual and argue that it can be fostered without hostility (2006). This safe space at Private School may be so safe as to inhibit change from occurring for privileged students. At some point, students need to address their own participation and complicity in this system of bias in order to make a change.

Public School also uses small group discussions and activities, but their approach is more straightforward in terms of confronting privilege. They do this by asking participants to carry out a medical scenario and then breaking down step by step how privilege and bias are integrated into their answer. For example, in Public School's LGBT Health workshop they presented the case of a "40 yo assigned male at birth with masculine appearance, who presents to the office to discuss HIV pre-exposure prophylaxis". They follow this information up with some sexual history on this man and ask the students "How would you describe this patient's gender identity and sexual orientation?" These exercises make the students comfortable with these situations and allow an in-depth analysis of each scenario. They also use testimonials and interactions with minority groups as a mechanism of confrontation. Their sources do not include

the numerous privilege worksheets found at Private School, instead, they move straight from their safe space to the confrontation of bias.

Promoting Self-Awareness:

Confrontation of bias serves to promote self-awareness in students. Public School, at the beginning of their workshops, asks students to consider their own involvement in medical bias and how they are responsible. This confrontation follows the logic explored in feminist theory that everyone has some degree of privilege, and even further that everyone holds biases whether they are aware of them or not. As previously stated, this is known as implicit bias (Jolls & Sunstein 2009). Therefore, this promotion of self-awareness before diving into the more informational part of the sessions allows participants to absorb this information from a point of self-awareness. This point of self-awareness is their understanding of their own role in the maintenance of bias, and understanding this allows further knowledge to be integrated into their own worldview. They can look at statistics about mortality rates, and access to health care and see their own involvement in these issues. This allows the confrontation to continue throughout the whole workshop through the self-confrontation of biases and privileges. This saves facilitators from having to single out individuals, which would create an unsafe and accusatory environment, which as Czopp et al. noted, is not helpful to bias erasure.

On the other hand, Private School facilitates a confrontation of privilege and bias in a much lighter tone. Private School's workshops make it apparent that biases are part of being human, as seen in their bead exercise where everyone adds a bead onto their string for each privilege they have. Before this activity is performed, participants are reminded that everyone has some bias and the goal is not to perform "oppressions algebra," but to find how to use this

privilege to navigate everyday life. This acceptance of bias in all individuals helps avoid hostility and maintains a safe environment. These workshops also include the discussion of microaggressions and how to spot and stand up to them, therefore becoming an ally. Nowhere in this workshop are students asked to consider their own use of microaggressions. Just as they encourage students to use their privilege for good, they encourage students to stand up to microaggressions. However, these changes never confront the students themselves and the self-responsibility they must adopt. Even though microaggressions are discussed, students never get the chance to confront their own bias, or are told that their biases are part of the problem. Instead, the blame seems to be placed on the rest of the world. This understanding of others' biases may allow them to understand their own involvement, but could also inadvertently excuse them from responsibility. Additionally, Private School never relates these biases to medical care; instead, these workshops seem to be more focused on avoiding bias between students. This may relate to the higher percentage of minority students at Private School as seen in Table 1. In addition, while this paper is focused on the erasure of bias in privileged individuals, there are possible negative repercussions for minority students. The realization of personal oppression can be jarring for minority students not previously exposed to this reality. There is a fine balance between protecting minority students while also confronting privileged students. This struggle deserves to be recognized especially when addressing the strategies of Private School, a school with more minority students than the national average.

Teaching Bias and Its Effects:

One of the keystones of medical bias is two-way bias. This is the concept where bias is derived from either an assumption of similarities or differences between the "normal body" and

minority groups. One main way to combat two-way bias is to erase misinformation and expose students to the reality of the similarities and differences between two groups of people. This is an incredibly sensitive undertaking because, with these clarifications, more bias could be formed based on these new facts if they are not fully explored. In this case, fully explaining the causations and implications of differences is essential to avoid the exacerbation of bias. At Public School, they accomplish this by using statistics and case studies in their bias training. As they present various areas of bias, they explain the implications of these biases on the health of patients, as well as the underlying cause of these biases. In addition, they also show testimonials of bias and provide ways to combat bias for their students. This includes the integration of students into community-based research that, "examine[s] how Black women at the intersection of marginalized race and gender subgroups; experience discrimination and the impact of discrimination on health outcomes (physical and emotional health)". Public School also utilizes statistics to exemplify the disparities in certain illnesses (ie. hypertension) between various minority and non-minority groups.

Private School takes a more generalized approach to explore the effects of bias on health outcomes. Because Private School's approach to bias reduction is more rooted in bias toward other students, they do not explore health outcomes. Instead, they include general implications of microaggressions and bias on minority groups. Their account of implications is generic in that it does not explore the specific effects of bias. In addition, it lists general bias effects on mental health and other aspects of life without offering detailed examples and data, and attributes these implications to all minority groups instead of breaking up the varying effects on different minority groups. An example of this is the worksheet on microaggressions Private School provides in one of their workshops. This document explains what the underlying message of

each microaggression means to the individual being targeted. These messages include "who you are and what you have to say is not important" and "You are all alike". While such messages are essential to understanding microaggressions and their impacts, they do not touch on the institutional effects of these aggressions, much less the medical effects. However, the document does mention the effects of multiplying oppressions on the impact of bias, showing some knowledge of intersectional oppression even if it did not directly intend to do so. Overall, since Private School does not include specific bias training in relation to patients, they have no focus on medical outcomes based on bias experiences. Of course, this tearing down of two-way bias can also be done every day in the classroom, where thorough exploration of health realities can notably reduce bias. Yet, this would rely on the proper training of professors and their own reduction of bias, otherwise, their own bias would amplify that of their students (Brottman et al. 2019; Burke et al. 2017).

The documents I received from Public School are from their medical school courses, and they show the integration of this training into everyday classes and a certain degree of professor training. This continuous training on medical bias is something that is essential to the effectiveness of medical education. Private School's documents, in contrast, exemplify a bias education separate from medical school curriculum. This is exemplified not only in the separation of workshops into their own time and space but also in the lack of integration of medical curriculum into bias training. This integration seen at Public School allows for a deeper understanding of the applications of bias in their own role as future medical professionals.

Creation of an Emotional Link:

The final recommendation mentioned in medical bias training literature is the creation of an emotional link between the medical student and the oppressed group. This analysis can only be done partially because the literature presents this connection as happening through a diverse student body, faculty, and patient simulations. Public School uses testimonials to not only ease the privileging of information, but also to the effect of making these issues real. Putting a face and emotion to the consequences of bias helps create an emotional understanding of bias. Dovidio et al. (2004) show that the analysis of emotions when watching a video of the occurrence of bias reduces the viewer's own bias. Therefore, a video showing members of the community surrounding the school will even further establish this connection and feeling of community. Whether intentionally or not, these testimonial videos have the effect of creating links between the majority students and minority groups, and establish a sense of community that further reduces bias. In addition, Public School has a required rotation in their free clinic. Free clinics are meant to serve not only as a learning opportunity but also as a way to provide medical care to underserved minority populations. While this is outside the 2-year period I am studying, experiencing first-hand what they saw in the videos, as well as creating connections in person with minority groups, will help lower bias in these future doctors especially if they come from privileged backgrounds.

In comparison, Private School does have a large focus on the reduction of bias between students. This focus encourages students to stand up for their fellow classmates when they witness microaggressions. While I feel that the approach of utilizing privilege to combat privilege is not effective and adds to the problem, this approach may contribute to the creation of bonds between majority students and minority groups. Their focus on the understanding and

fostering of compassion for other students does help in this regard. However, from Private School's resources, there is no indication of a focus on forming a connection with patients. While research has shown that diversity on campus and interactions with minority peers reduces medical bias (Van Ryn et al. 2015 ; Gonzalez et al 2019), without seeing the links between patients and colleagues, how can these emotional connections be interpreted?

Feminist Methodology Use:

Both Private and Public School's use a combination of the five strategies for effective formal medical bias training with varying success in their material sources. Also essential to effective formal bias training is the utilization of a feminist methodology. The literature for medical bias training in medical schools, reveals a stark lack of feminist theory. The few exceptions, like Chema et al. (2019) and Wilson et al. (2019), deal more generally with medical bias and its relation to feminist theories rather than insights into medical education. For these reasons, I was shocked to see evidence of a feminist framework in both Private School and Public School's training documents specifically in regards to intersectionality and the use of testimonials. This integration shows that a certain degree of research into bias and bias reduction techniques was performed by these schools.

Intersectionality:

As mentioned earlier in this paper, intersectionality is essential to the understanding of bias. Cheema et al. (2019) state the importance of intersectionality in vocalizing silenced narratives and in erasing the "normal body" proposed by Audre Lorde. Intersectionality provides a crucial lens to medical professionals, as it allows for the interpretation of essential social

realities. In addition, an understanding of intersectionality is accompanied by the comprehension of two-way bias and other key concepts for conceptualizing bias (Wilson et al. 2019). The materials I received from Private School, while not outright mentioning intersectionality, do include the concept itself through their understanding of the intersection of oppressions. This overlapping of multiple identities to amplify oppression is an essential concept to the understanding of intersectionality (Crenshaw, 1990). This notion is exemplified in the workshops of Private School, especially in their bead activity. In this activity, individuals are asked to take a bead for each question they answer yes to. These questions are concerned with the many privileges a student may have. At the end of this activity, there is a discussion not only about everyone having some degree of privilege, but also about the necessity of avoiding "oppression algebra." This workshop in a roundabout way explains the many facets of our identity that can result in either privilege or oppression and the intersectional nature of oppression.

Public School more directly addresses intersectionality in their sources. Public School states, "A person's social position and health are informed by their intersecting experiences of privilege and oppression". Public School, similarly to Private School, employs the concept of intersecting identities, but they use a representation of the Axes of Privilege and Oppression (Figure 1). This illustration stresses the importance of intersecting identities in the manifestation of oppression. Its framework is particularly detailed and extensive as it goes beyond gender, race, class, and sexuality. Also important to highlight, is the use of different workshop focuses at Public School. Primarily I would like to mention their workshop on LGBT Health. This workshop exemplifies intersectionality as it explores the various impacts of sexual orientation

and gender identity on health. Public School also makes sure to explicitly explain the many variations in gender and sexual identities possible to encounter in a patient.

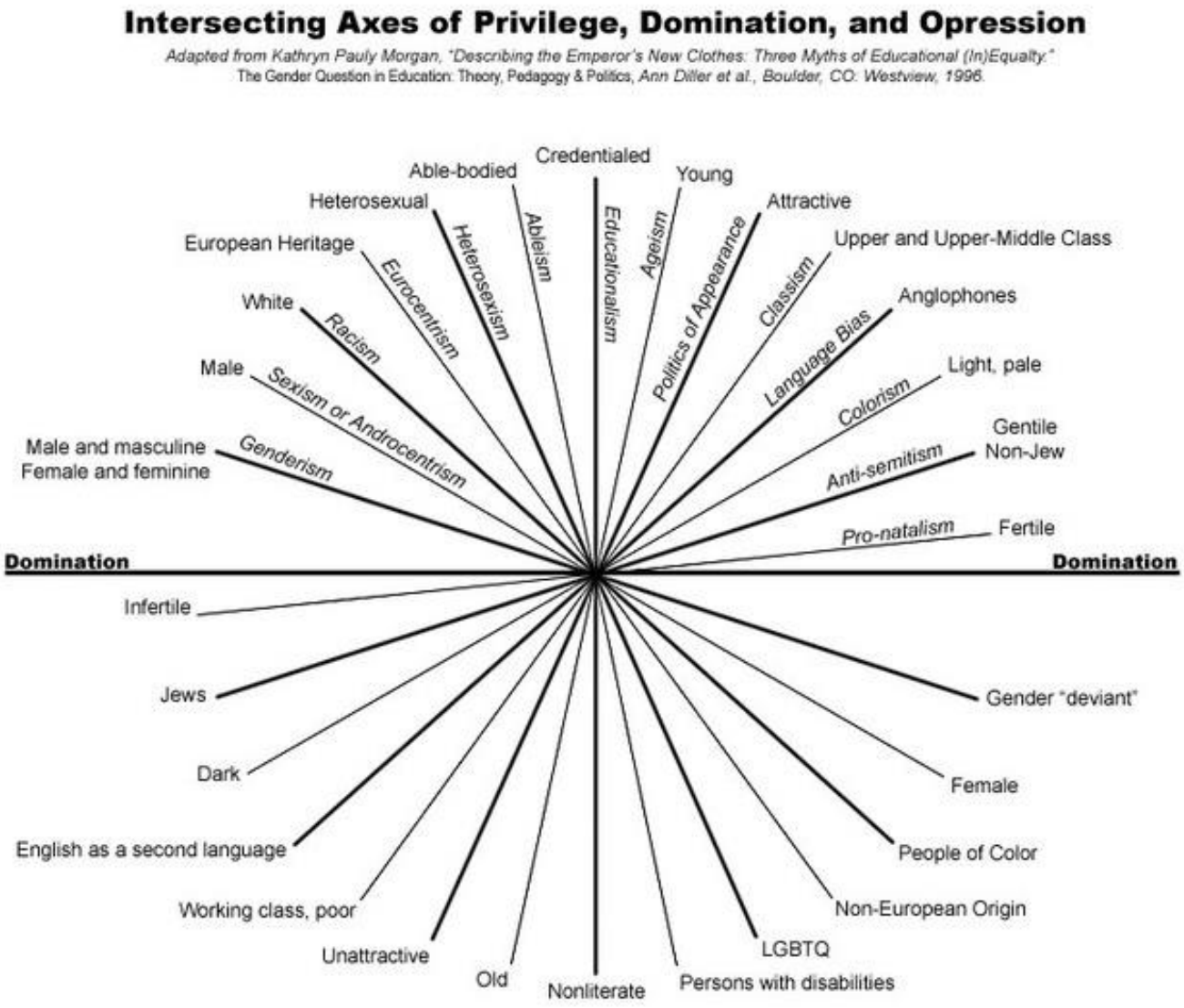

Figure 1: Axes of Privilege, Domination, and Oppression

Testimonials & Experience:

A key component of feminist research is the already mentioned concept of epistemic humility or the recognition that knowledge can come from many different sources in many

different forms (Buchman et al. 2017). Public School, as seen by the previously mentioned importance of their community training clinic, cares deeply about incorporating experiences in the community in their students' education. This is also reflected in the Community-Based Research highlighted in Public School's documents. Public School defines Community-Based Research as research where, "Community members are a part of the planning, implementation and dissemination process". The importance of this type of research is emphasized by Lykes & Crosby (2014), as they present Community-Based Research as a place to, "engage the community in knowledge creation and challenge systems of power and structures of domination" (2014: 171). Not only does Public School engage in and encourage their students to participate in this beloved feminist research experience, but they ensure this method is accessible to the community and acts as a way to expose silenced narratives. This epistemic humility is shown through their method of Community-Based Research, namely testimonials. Public School gathered data for their investigation of medical bias' impact on Black women through testimonials that ask questions regarding community member's minority status, therefore, uncovering subjugated knowledge hidden in traditional knowledge production (Hesse Biber, 2014). While I have been supplied no information into the reflexivity of the researcher, or the specific methodology of interviewing, the attempt to engage with epistemic humility is still incredibly important. However, it is important to acknowledge that this type of research is especially effective when a feminist or other critical studies interviewer is used since they are cognizant of power relations that might impact the research.

Feminist Theory & The Five Strategies:

The use of feminist theory seems correlated with the presence of the five essential strategies of effective medical bias training in the schools' curriculum. We see more in-depth feminist theory in Public School sources than the Private School sources as well as more consciousness of the five key components to medical bias training. This correlation can be easily rationalized as any research done into bias reduction techniques would uncover the five key pieces for beneficial bias education, and further research into the concepts of bias and its roots would lead the reader to uncover information into intersectionality and other feminist theory.

Conclusions:

Even though medical bias education strategies have been heavily studied, there is little research into this data's application. This paper reveals a relative inconsistency between literature and practice and many variations between medical schools themselves. Public School showed a certain understanding not only of bias reduction literature but of feminist concepts like intersectionality and epistemic humility. On the other hand, Private School seems to exhibit a less intensive research into medical bias training and a relatively narrow focus on the reduction of bias between students. This preoccupation could be attributed to the relatively large percentage of minority students on their campus. Van Ryn et al. expresses how important faculty and student diversity is for informal training to reduce bias (2015). However, no correlation was proposed in the literature between the presence of formal training and the presence of informal training beyond an assumption that the knowledge about and effort to provide one, would lead to the other. The question then becomes, does this increase in informal training through diversity make up for Private School's lacking formal education? Does this

15.7% presence of minority students justify missing a feminist framework? Is this larger percentage of minority students the reason Private School's workshops are focused on reducing bias towards their fellow classmates rather than potential patients and not harping on the perpetuation of bias? These questions, while important, are not ones I am able to answer at this time.

Through this paper, a set of criteria to evaluate effective bias reduction have been produced. In addition, research into the actual practices of medical schools has been performed. This research provides much-needed insight into the current application of medical bias literature to medical schools. While this is not a representative study, these two schools exemplified the large variation in bias training methodology utilized. While these results are not replicable and thus can not establish any trends, they act as a call for research. Not only does the formal training of medical institutions need to be analyzed, but the informal training also needs to be uncovered. Evaluating informal bias would require more researchers, time, and resources than are available to me at this time. Besides this research allowing for an understanding of the current variability of medical bias education, it could also be used to hold schools accountable. With a more national investigation, schools would be assessed on their training and would be pushed to improve their current system. Interaction with researchers might also make schools aware of feminist frameworks and the best strategies for effective medical education. Therefore, while my research is very limited in scope, it does serve as the basis for more research as it highlights the need for further study. Overall medical bias education provides a prime opportunity to reduce medical bias that needs to be expanded further.

Bibliography:

Anderson, Meg. Et al. "To Keep Women From Dying In Childbirth, Look To California." *National Public Radio,* July 29, 2018. https://www.npr.org/2018/07/29/632702896/to-keep-women-from-dying-in-childbirth-look-to-california. Accessed 26 Sept. 2019.

Brottman, Melissa R., et al. "Toward Cultural Competency in Health Care: A Scoping Review of the Diversity and Inclusion Education Literature." *Academic Medicine: Journal of the Association of American Medical Colleges*, Sept. 2019. *PubMed*, doi:10.1097/ACM.0000000000002995.

Buchman, Daniel Z., et al. "Investigating Trust, Expertise, and Epistemic Injustice in Chronic Pain." *Journal of Bioethical Inquiry*, vol. 14, no. 1, Mar. 2017, pp. 31–42. *Springer Link*, doi:10.1007/s11673-016-9761-x.

Burke, Sara E., et al. "Informal Training Experiences and Explicit Bias against African Americans among Medical Students." *Social Psychology Quarterly*, vol. 80, no. 1, Mar. 2017, pp. 65–84. *DOI.org (Crossref)*, doi:10.1177/0190272516668166.

Cheema, Amal W., et al. "Multiple Marginalizations: What Bioethics Can Learn From Black Feminism." *The American Journal of Bioethics*, vol. 19, no. 2, Feb. 2019, pp. 1–3. *Taylor and Francis+NEJM*, doi:10.1080/15265161.2019.1575142.

Crenshaw, Kimberle. "Mapping the Margins: Intersectionality, Identity Politics, and Violence against Women of Color." Stanford Law Review, vol. 43, 1991 1990, p. 1241.

Czopp, Alexander M., et al. "Standing up for a Change: Reducing Bias through Interpersonal Confrontation." *Journal of Personality and Social Psychology*, vol. 90, no. 5, May 2006, pp. 784–803. *PubMed*, doi:10.1037/0022-3514.90.5.784.

Dovidio, JF, et al. "Perspective and Prejudice: Antecedents and Mediating Mechanisms."

PERSONALITY AND SOCIAL PSYCHOLOGY BULLETIN, vol. 30, no. 12, Dec. 2004, pp. 1537– 49.

Dyrbye, L., et al. *Association of Racial Bias With Burnout Among Resident Physicians, Health Disparities, JAMA Network Open, JAMA Network*. https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2739043. Accessed 8 Oct. 2019.

Glance, Laurent G., et al. "Trends in Racial Disparities for Injured Patients Admitted to Trauma Centers." *Health Services Research*, vol. 48, no. 5, Oct. 2013, pp. 1684–703. *PubMed Central*, doi:10.1111/1475-6773.12064.

Goddu, Anna P., et al. "Do Words Matter? Stigmatizing Language and the Transmission of Bias in the Medical Record." *Journal of General Internal Medicine*, vol. 33, no. 5, May 2018, Pp. 685–91. *PubMed Central*, doi:10.1007/s11606-017-4289-2.

Gonzalez, Cristina M., et al. "A Qualitative Study of New York Medical Student Views on Implicit Bias Instruction: Implications for Curriculum Development." *Journal of General Internal Medicine*, vol. 34, no. 5, May 2019, pp. 692–98. *PubMed*, doi:10.1007/s11606-019-04891-1

Hamberg, Katarina. "Gender Bias in Medicine." *Women's Health*, vol. 4, no. 3, May 2008, pp. 237–43. *DOI.org (Crossref)*, doi:10.2217/17455057.4.3.237.

Hannah, Seth, and Elizabeth Carpenter-Song. "Patrolling Your Blind Spots: Introspection and Public Catharsis in a Medical School Faculty Development Course to Reduce Unconscious Bias in Medicine." *Culture, Medicine, and Psychiatry*, vol. 37, no. 2, 2013, pp. 314–339. *gettysburg.primo.exlibrisgroup.com*, doi:10.1007/s11013-013-9320-4.

Haraway, Donna. "Situated Knowledges: The Science Question in Feminism and the Privilege of

Partial Perspective." *Feminist Studies*, vol. 14, no. 3, 1988, pp. 575–99. JSTOR, *JSTOR*, doi:10.2307/3178066.

"The Health Consumer: Woman as Double Victim." *Nassau Herald's Sisterhood Week*, vol. 1, no. 8, Nov. 1971, p. 14. Newspaper. Women's Studies Archive.

Hernandez, Rachael. "Medical Students' Implicit Bias and the Communication of Norms in Medical Education." *Teaching and Learning in Medicine*, vol. 30, no. 1, Mar. 2018, pp. 112–17. *PubMed*, doi:10.1080/10401334.2017.1359610.

Hesse-Biber, and Nagy. *Feminist Research Practice: A Primer*. 2nd ed., Sage, 2013

Hoffman, Kelly M., et al. "Racial Bias in Pain Assessment and Treatment Recommendations, and False Beliefs about Biological Differences between Blacks and Whites." *Proceedings of the National Academy of Sciences*, vol. 113, no. 16, Apr. 2016, pp. 4296–301. *www.pnas.org*, doi:10.1073/pnas.1516047113.

Johansson Eva E, et al. "A Theoretical Model for Analysing Gender Bias in Medicine." *International Journal for Equity in Health*, vol. 8, no. 1, 2009, p. 28. *gettysburg.primo.exlibrisgroup.com*, doi:10.1186/1475-9276-8-28.

Jolls, Christine, and Cass R. Sunstein. "The Law of Implicit Bias." *California Law Review*, vol. 94, 2006, p. 969.

Khosla, Natalia N., et al. "A Comparison of Clinicians' Racial Biases in the United States and France." *Social Science & Medicine (1982)*, vol. 206, 2018, pp. 31–37. *PubMed*, doi:10.1016/j.socscimed.2018.03.044.

Lorde, Audre. *Age, Race, Class and Sex: Women Redefining Difference*. p. 7.

Lykes, M. Brinton, and Alison Crosby. "Feminist practice of action and community research." *Feminist research practice: A primer* (2014): 145-181.

McCall, Leslie. "The Complexity of Intersectionality." *Signs*, vol. 30, no. 3, 2005, pp. 1771–800. *JSTOR*, doi:10.1086/426800.

Medical School Admission Requirements (msar): The Most Authoritative Guide to U.S. and Canadian Medical Schools. Washington, D.C: Association of American Medical Colleges, 2008. Print.

Montagne, Renee. "To Keep Women From Dying In Childbirth, Look To California." *NPR.Org*, https://www.npr.org/2018/07/29/632702896/to-keep-women-from-dying-in-childbirth-look-to-california. Accessed 26 Sept. 2019.

Pedersen, Natalie Bucciarelli. "A Legal Framework for Uncovering Implicit Bias." *University of Cincinnati Law Review*, vol. 79, 2010 2010, p. 97.

Phelan, Sean M., et al. "The Mixed Impact of Medical School on Medical Students' Implicit and Explicit Weight Bias." *Medical Education*, vol. 49, no. 10, 2015, pp. 983–92. *Wiley Online Library*, doi:10.1111/medu.12770.

Rabinowitz, Loren G. "Recognizing Blind Spots - A Remedy for Gender Bias in Medicine?" *The New England Journal of Medicine*, vol. 378, no. 24, 2018, p. 2253, doi:10.1056/NEJMp1802228.

Sabin, Janice A., et al. "Health Care Providers' Implicit and Explicit Attitudes Toward Lesbian Women and Gay Men." *American Journal of Public Health*, vol. 105, no. 9, Sept. 2015, pp. 1831– 41. *PubMed Central*, doi:10.2105/AJPH.2015.302631.

Smith, Wally R., et al. "Recommendations for Teaching about Racial and Ethnic Disparities in Health and Health Care." *Annals of Internal Medicine*, vol. 147, no. 9, Nov. 2007, pp. 654–65. *PubMed*, doi:10.7326/0003-4819-147-9-200711060-00010.

Stone, Jeff, and Gordon B. Moskowitz. "Non-Conscious Bias in Medical Decision Making: What

Can Be Done to Reduce It?" *Medical Education*, vol. 45, no. 8, Aug. 2011, pp. 768–76. *PubMed*, doi:10.1111/j.1365-2923.2011.04026.x.

Sukhera, Javeed, and Chris Watling. "A Framework for Integrating Implicit Bias Recognition Into Health Professions Education." *Academic Medicine: Journal of the Association of American Medical Colleges*, vol. 93, no. 1, 2018, pp. 35–40. *PubMed*, doi:10.1097/ACM.0000000000001819.

Tsugawa, Yusuke, et al. "Comparison of Hospital Mortality and Readmission Rates for Medicare Patients Treated by Male vs Female Physicians." *JAMA Internal Medicine*, vol. 177, no. 2, 01 2017, pp. 206–13. *PubMed*, doi:10.1001/jamainternmed.2016.7875.

U.S. Department of Health and Human Services. *Report of the Secretary's Task Force on Black and Minority Health: Volume I: Executive Summary*. GPO, 1985. *Internet Archive*, http://archive.org/details/reportofsecretar00usde.

Van Ryn, Michelle, et al. "Medical School Experiences Associated with Change in Implicit Racial Bias Among 3547 Students: A Medical Student CHANGES Study Report." *Journal of General Internal Medicine*, vol. 30, no. 12, Dec. 2015, pp. 1748–56. *DOI.org (Crossref)*, doi:10.1007/s11606-015-3447-7.

Williams, David R. "Race, Socioeconomic Status, and Health The Added Effects of Racism and Discrimination." *Annals of the New York Academy of Sciences*, vol. 896, no. 1, 1999, pp. 173–188. *gettysburg.primo.exlibrisgroup.com*, doi:10.1111/j.1749-6632.1999.tb08114.x.

Wilson, Yolonda, et al. "Intersectionality in Clinical Medicine: The Need for a Conceptual Framework." *The American Journal of Bioethics*, vol. 19, no. 2, Feb. 2019, pp. 8–19. *DOI.org (Crossref)*, doi:10.1080/15265161.2018.1557275.

Appendix:

Health Outcomes in Diverse Communities. Powerpoint. Public School.

LGBT Health: Gender Identity and Sexual Orientation Effects on Health Care Access and Delivery. Powerpoint. Public School.

Science of Mind Body Small Group: Health Outcomes in Diverse Communities. Facilitator Guide. Public School.

Examining Concepts of Privilege Workshop. Powerpoint. Private School.

Cross-Cultural Communication Workshop. Powerpoint. Private School.

Cultural Competency- Cross Cultural Communication Workshop. Facilitators Guide. Private School.

Cultural Competency- Examining Concepts of Privilege Workshop. Facilitators Guide. Private School.

Understanding and Addressing Microaggressions in the Workforce Part 1. Powerpoint. Private School.

Microaggressions. Worksheet. Private School.

Unproductive Meeting Behaviors. Worksheet. Private School.

Checklist for Allies and Accomplices: Tools and Strategies to Increase Your Capacity and Effectiveness as Change Agents (A Place to Start). Worksheet. Private School.

Responding to Microaggressions and Bias. Worksheet. Private School.

What Could You Do? Worksheet. Private School.

Traps and Potholes for Allies to Avoid, a Beginning List. Worksheet. Private School.

Pairs: Effective Dialogue Skills. Worksheet. Private School.

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