Investigating the Role of Implicit Class Bias in the Clinical Encounter: A Call to Eliminate Health Disparities

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Introduction

The social gradient of health is well known, unlike the factors that create and perpetuate these health disparities. Making progress in understanding these social determinants of health are critical to bridging the gap in health outcomes. Even when controlling for healthcare access, class-associated disparities persist. An important component of understanding these health inequalities lies in the clinical encounter and the patient-provider relationship.

Despite their explicit commitment to providing equal care, studies suggest that implicit prejudice and stereotyping can impact the judgment and behavior of healthcare providers when they interact with stigmatized patients. These implicit biases are associated with undermining of the patient-provider relationship, lower quality of care, disparate health recommendations, and, ultimately, unequal patient health outcomes. While implicit biases exist on multiple dimensions against individuals as members of disadvantaged groups, implicit biases against low socioeconomic status patients have the broadest scope, yet few studies have fully investigated the role of implicit class bias. Identifying current approaches and limitations in studies of implicit class bias is imperative in bridging the gap in social health disparities at the level of the clinical encounter.

Literature Review

Class and Health Disparities

Socioeconomic status (SES) is a complex classification – most definitions use this characteristic to include income, social standing, and education level, and occasionally occupation status and type. However, from a health care perspective, this includes a wide range of class-associated factors, such as insurance status, access to care, health literacy, patient health beliefs, and, important within the context of this paper, a variety of factors of the patient-provider

relationship, such as trust and communication.[1] An individual's SES has direct consequences on their morbidity and mortality, as social factors make individuals vulnerable to a wide array of diseases – socially disadvantaged groups experience shorter life expectancy and higher rates of heart disease, stroke, chronic depression, diabetes, cancer, trauma and violence, respiratory problems, substance use disorder, infant mortality, and low birth weight in offspring.[2]

Social determinants of health used to be associated with unsafe housing, overcrowding, sanitation, and work conditions, with low SES populations suffering from higher rates of associated diseases, such as typhoid, measles, tuberculosis, and diphtheria.[3] Despite health care, technology, and infrastructure improvements over the past 30 years, this disparity in health outcomes across social gradients has persisted. A 2016 *JAMA* study by Raj Chetty comparing the most affluent 1% of individuals with the poorest 1% of individuals in the United States found that there is an average gap in life expectancy of 15 years (Figure 1).[4,5] This indicates that some social conditions, specifically SES, are a "fundamental cause" of disease. In other words, the ongoing association between SES and disparities, in spite of particular disease and condition causes being resolved, means that SES "embodies an array of resources, such as money, knowledge, prestige, power, and beneficial social connections that protect health no matter what mechanisms are relevant at any given time."[3] Understanding the complex factors that result in SES being a fundamental cause of disease is crucial in mitigating health disparities, and eliminating these disparities in morbidity and mortality for people with less than a college education is estimated to have an economic value of 1.02 trillion to the U.S. economy.[6]

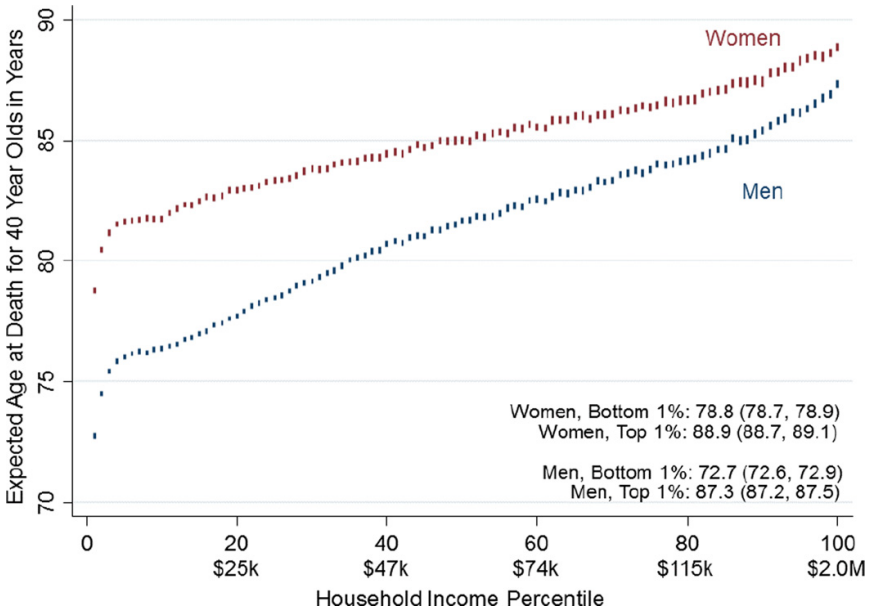

Figure 1: Race- and Ethnicity-Adjusted Life Expectancy for 40-Year-Olds by Household Income Percentile, 2001–2014.[5]

Causes of Class Health Disparities

Failing to understand and address the fundamental drivers of health disparities will most likely render policies and interventions aimed at combating public health challenges a failure and may exacerbate current disparities. The causes of health disparities on morbidity and mortality across SES is complex and multifactorial. Lower SES people are more likely to be exposed to environmental toxins, such as carcinogens, and inadequate or insecure housing with direct consequences on air and water quality, including increased risk of mold and lead exposure. These environmental factors can affect the cognitive and behavioral development of young children and increase the risk of respiratory problems, such as asthma.

Outside of the health consequences of living conditions, there are a variety of social and economic factors that may translate to poor health. As previously highlighted, people of low SES often have lower levels of educational attainment, income, and wealth. These individuals are less likely to experience community safety as neighborhoods with a high concentration of poverty

often correlate with increased levels of violence. Furthermore, employment grade, status, and availability are intricately tied to health outcomes. The Whitehall studies conducted from 1967 to 1988 in Britain elucidated that, even when controlling for confounding factors such as employment and health care access, the relative risk of mortality increased as employment grade decreased.[7] Job stress and quality of life are associated with employment that provides a sense of meaning and accomplishment. These job opportunities may have decreased over the past few decades and are less likely to provide adequate family and sick leave, undermining the health of both employees and their families.[8] Additionally, an individual's social network, which may be undermined by community violence and employment status, is intimately linked with their quality of life. Overall, job stress, economic insecurity, community safety, and social isolation among low SES people are likely to have psychological effects, demonstrated by an increased risk of mental illness, and physiological effects. Chronic stress leads to consistently heightened levels of hormones involved in the "fight-or-flight" response that elevate blood pressure, blood sugar, and other metabolic factors, ultimately increasing the risk of diabetes, cardiovascular disease, stroke, and decreased immune function, which can lead to higher rates of infectious diseases and cancer.

All these socioeconomic factors and stressors are tied to risky health behaviors. Lower levels of education, income, resources, and knowledge lead to higher rates of tobacco use among low SES populations and nutrient-deficient diets that may lead to obesity. Additionally, neighborhood violence and limited time availability may decrease exercise, a protective factor that increases mental health and longevity. Neighborhood characteristics, stress exposure, and inadequate education also increase rates of alcohol, drug use disorders, and risky sexual activity,

specifically rates of unprotected sex, increasing risk of infectious diseases, including hepatitis C and HIV/AIDS.

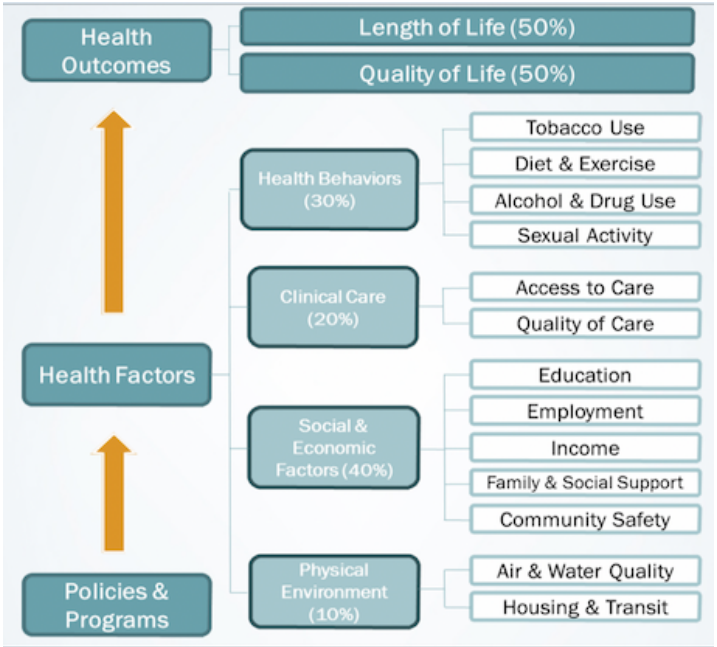

Figure 2: Overview of factors leading to disparate health outcomes.[9]

These health factors encompass a variety of social determinants of health (Figure 2).[9] While policies and interventions are needed to address these determinants, an often overlooked and not fully understood factor in health disparities is the clinical encounter. A patient's SES influences their health care quality and outcomes.[10] This is a point of concern since many low SES individuals have restricted access to health care because of insurance status, geography, transportation, and limited resources. Furthermore, regardless of insurance status, research shows that low SES patients receive fewer preventative services, worse diabetes care, and fewer indicated cardiac services.[1] As previously highlighted, these patients are disproportionately more likely to experience heart disease and diabetes and would benefit from preventative services, therefore understanding the role of the health encounter in health outcomes is crucial to addressing health disparities across social gradients.

An important element of the health encounter is the patient-provider relationship. The term provider is used rather than physicians since it encompasses all health professionals. Factors that undermine the patient-provider relationship may result in disparate health outcomes. Many studies have investigated elements of the clinical encounter that risk undermining this relationship, especially the role of miscommunication or lack of trust in the provider's intentions or recommendations. However, there is an increasing body of literature implicating the role of implicit bias in this relationship. It is important to note that these causal factors are not mutually exclusive, but complexly intertwined, and manifestations of bias likely results in miscommunication and loss of trust.

What is Bias?

There are two types of bias identified in the current literature: explicit bias and implicit bias. Explicit bias, or conscious bias, occurs when an individual is aware of their feelings or attitudes, and their related behaviors are directed with intent. Alternatively, implicit bias, or unconscious bias, occurs outside of a person's awareness and may be in direct contradiction to a person's espoused beliefs and values.[11] A recent study suggests that there has been a decline of both explicit and implicit biases among the United States population, but this decline is less dramatic for implicit bias.[12]

Within the context of this paper, bias is characterized as stereotypes about people based on the identity group they belong to and/or an immutable physical characteristic they possess. Biases are fluid and strongly dependent on broader societal perceptions, and the diversity in identity characteristics between two individuals. Therefore, explicit biases often transform into implicit biases as broader societal narratives deem a view unacceptable. For example, in the United States, racism has become socially and politically unacceptable, therefore there has been

a gradual decrease in explicitly, racially-biased behavior. However, implicit biases are not equivalent to known biases that individuals may choose to conceal for the purposes of social/political correctness, rather they are not accessible through introspection. Therefore, identifying implicit biases and their manifestations in interactions can be difficult for individuals.

Bias in the Health Care Setting

A systematic study indicates that healthcare professionals exhibit the same levels of implicit bias as the wider population.[13] While explicit biases are still present in the general U.S. population, and may also be present in a health care setting, this study will focus specifically on the role of implicit biases for two reasons. First, identifying an outcome or interaction as biased is difficult and requires comprehensive, critical reviews of a wide data or observation set, therefore it is even more difficult to identify bias as explicit or implicit. Second, categorizing a bias as explicit implies there is a deliberate action in creating a negative outcome, and this study's focus is on investigating the consequences of health provider bias rather than the intent.

Implicit biases arise from implicit associations. The role of implicit bias is troubling since implicit associations are unconscious and uncontrollable processes, but psychologists often stipulate an implicit association represents bias when this unconscious process is likely to have a negative impact on an already disadvantaged group.[14] Sociological research indicates that social categorization and stereotyping is a universal process that humans utilize in navigating the world and interactions with others. Stereotype application is a sub-process of implicit associations and highlights that when people mentally categorize an individual to a particular group, they unconsciously and automatically assign the stereotyped characteristics of that group to the individual.[15,16] This process has a higher likelihood of occurring, and not being consciously identified, in situations that tax cognitive resources, such as under time pressure or sleep

deprivation – these situations are common in healthcare settings, further reinforcing the risk of implicit bias in health providers.

Modern evidence-based medicine approaches may argue that implicit associations are useful diagnostic tools. Bayesian thinking is increasingly being utilized in healthcare settings and involves categorizing a patient's risk based on demographic and clinical characteristics, and using probabilistic approaches to guide diagnostic and therapeutic decisions.[17] However, Bayesian thinking can lead to statistical discrimination in which these medical decisions are made without the appropriate use of individualizing information and create unequal treatment for patients within certain sociodemographic groups.[18,19] This is supported by additional studies that found significant positive correlations between levels of implicit bias and lower quality of care.[13] While studies have not been able to explicitly identify the consequences of bias on health outcomes, provider bias does result in disparate health recommendations which then leads to disparate health outcomes.

Therefore, there is reason to believe that implicit class bias may contribute to the social gradient of health. However, there are multiple limitations in studies that investigate the role of implicit bias. These include the role of identifying bias, categorizing implicit versus explicit bias, research often focusing on race or equating ethnicity/race with SES, and current measures of bias. Identifying, understanding, and addressing these limitations are necessary in proposing solutions and bridging the gap in SES-associated health disparities.

Methodology

This paper makes an argument that class bias exists in the health care setting, and this bias may result in negative health outcomes for low-socioeconomic status patients. My research aims to highlight the potential contribution of class bias to the social gradient of health and

outline how future research should approach determining the scope, specificity, and magnitude of impact this class bias relationship has on patient health. I began researching and refining this topic by performing a literature survey. The online databases used in my search were from PubMed, Washington and Lee's library database, Elsevier, SCOPUS, and Google Scholar. Original search terms included variations of "implicit bias", "SES or class or low income", and "health or health care or provider". Systematic reviews and research cited by or citing these reviews provided the original foundation for my research. I surveyed the literature and did an analysis on the information I found. There were two recurring points of ambiguity in this quantitative research process: the definition of bias and the non-specific role of class bias.

Firstly, explicit bias was rarely mentioned in pertinent literature unless in tandem with implicit bias. This is most likely due to the role of intent in differentiating these two. This paper will interchange implicit bias and bias because it is beyond the scope of this field to determine the intent of the bias, but rather the impact of the bias on patient health, clinical encounters, and patient-provider relationships. This quantitative research helped me define bias in health care and the context of this paper as "non-medically relevant information that influences the medical decision-making process."

Secondly, there is a gap in current quantitative literature about class bias and its manifestations in the health care setting. Some papers focus strictly on other social/identity characteristics, especially racial/ethnic bias, but often analyze bias pertaining to socioeconomic status simultaneously with these other characteristics. These quantitative analyses are valuable and provide an analytical and analogical foundation, but the commonalities and consequences in class-specific disparities and biases have not been fully investigated. Furthermore, there is little understood about the clinical experience of patients with multiple minority identities, so I

utilized sociology research to investigate the causes and consequences of bias, meanings of identity, and complexities of multiple identity characteristics.

I supplemented quantitative research with qualitative analyses, such as ethnographies utilizing questionnaires and interviews, to begin identifying mechanisms by which class biases emerge depending on a patient's characteristics and a health provider's characteristics. A limitation in analyzing qualitative research was few qualitative studies conducted in this field, the bias in selecting which interview transcripts were published, the characteristics of the population sampled, the framing of questions asked of participants, and measurements of bias. Ultimately, I supplemented original, biomedical research with social science research to identify current, research limitations and investigate the feasibility of disentangling class bias from broader biases against historically disadvantaged identifiers, such as race/ethnicity.

Research & Analysis

Provider Bias and Disadvantaged Patients

Individuals of disadvantaged sociodemographic groups, especially race/ethnicity, gender, and socioeconomic status, are more likely to experience health and health care disparities.[9] A vignette, or hypothetical situation, study on internal medicine and emergency medicine residents indicated that residents were significantly less likely to recommend thrombolysis, a medication used to dissolve blood clots, to a Black patient experiencing chest pain compared to a White patient with the same symptoms and presentation. This study's findings agreed with wider documentation of racial/ethnic disparities in cardiovascular treatment and concluded that a source of these disparities is racial bias and perceptions of noncompliance.[20] A separate qualitative study in 2012 found that physician's with implicit pro-White bias correlated with physician verbal dominance and less positive perceptions of interactions by Black patients.[21]

Furthermore, some physicians with higher ratings of implicit bias also appeared to spend more time with white patients than with minority patients.[22] Three separate studies found that even when adjusting for covariates, Hispanic and Black patients were significantly less likely to receive analgesia, or pain medication, than White, non-Hispanic patients.[23,24,25] Another study adjusting for covariates discovered that females were significantly less likely than male patients to be recommended total knee arthroplasty, a surgery used to treat arthritic knee damage and knee pain.[26] Additional gender bias was displayed in a vignette study of a middle-aged patient with a history of smoking presenting with a chronic cough, and male patients were significantly more likely to be diagnosed with COPD while female patients were diagnosed with asthma or an anxiety-related non-respiratory cause.[27]

Exemplified in these few studies, even when controlling for confounding factors across these categories, there is an association between cultural competency and reducing health care disparities, therefore understanding the effects of implicit bias in the health care setting is necessary in addressing health inequality.[28] A research study demonstrated that physician behaviors with patients, such as interviewing, courtesy, information giving, patient inclusion in decision making and opportunity in asking questions, nonverbal attention, and empathy, varied depending on the sex, age, appearance, and ethnicity of the patient.[22]

The relationship between levels of implicit bias and clinical decision-making is inherently complex and available research is unclear in the direct and indirect negative influence of biases on patient health outcomes. However, current literature and data does show a relationship between implicit bias and its negative effects on the clinical interaction.[13,29] These consequences may take two paths: (1) the implicit bias may affect a health provider's diagnostic and therapeutic decisions with potential downstream consequences in health disparities, and/or

(2) implicit bias may affect the communication and interaction between the provider and patient, influencing the patient's perceptions, judgments, and trust and this could possibly impact patient engagement, seeking timely treatment, revealing important information, compliance, and increasing health disparities (Figure 3).[30]

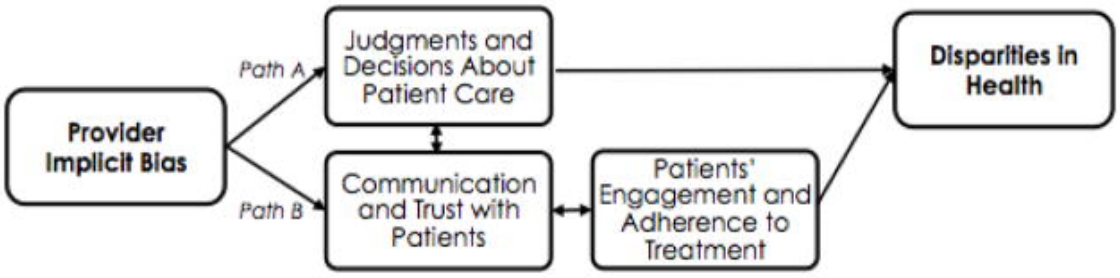

Figure 3: Model of paths through which provider implicit bias may contribute to health disparities.[30]

Measures of Bias

A major limitation in current research is the modes of measuring bias. Most studies do not measure implicit bias in real health care settings, but rather rely on simulations and other tests for implicit bias. This limitation is understandable considering the unique nature of the problem; however, the utilization of simulations may bias the results, such as through the Hawthorne effect in which participants may modify an aspect of their behavior in response to being observed, even if they do not know the nature of the research question.

A common test used to measure implicit bias is the Implicit Association Test (IAT). The IAT measures people's associations between concepts. For example, the classic race IAT compares whether you're quicker to link European-Americans with words associated with the concept "bad" and African-Americans with words related to "good" or vice versa. A systematic review that measured the validity and reliability of the IAT in measuring gender and racial stereotypes indicated that reliability of the test is relatively low for first-time users, which is most

often the case for the subject participants in the studies analyzed for this capstone. Furthermore, scoring is on a scale of -2.0 to 2.0, with anything above 0.65 or below -0.65 indicating a significantly "strong" link, but studies have not indicated any validity in this score.[31]

The developmental purpose of the IAT is as an educational tool to guide subjects into beginning to think about their implicit biases and how these biases influence their perceptions. Therefore, the results from these test should not be overinterpreted, yet the systematic review indicated that subjects often had a high level of trust in the validity and reliability of the IAT.[31] While every test has limitations and the IAT does better than self-report surveys in predicting behavior, it is important to acknowledge the quantitative limitations of the IAT and be cautious in the interpretations and implications. This a common limitation of tests measuring bias, especially implicit bias, since it is not possible to measure an individual's unconscious and subsequent associations.

Implicit Bias Research Focus

An additional limitation of current research is that studies often focus on the role of implicit racial bias in the health care setting, specifically black and white racial bias, with few investigations into effects of implicit bias pertaining to other identity characteristics.[29] While some studies mention patient socioeconomic status (SES), it is usually mentioned in tandem with race/ethnic identity and not fully explored.

Research in the field of implicit bias in the health care setting often does not consider that bias can exist on many social dimensions, and patients with multiple marginalized identities may be particularly affected in a clinical setting. The theory of intersectionality involves the interconnected nature of structural identities such as race, class, and gender as they apply to a given individual or group, creating overlapping and interdependent systems of discrimination or

disadvantage.[32] Therefore, these sociodemographic categories may have a protective or confounding effect, but ultimately are not independent, nor can they be.

However, this does not undermine the importance of investigating the role of implicit class bias. For example, one study on recommendations of intrauterine contraception found evidence of bias against low SES Latina patients, but not against high SES Latinas.[19] Furthermore, patient SES seems to have a broader effect on generalized provider perceptions than race.[33] Social class may be more salient in some circumstances than other disadvantaged identity characteristics, therefore including and fully investigating socioeconomic factors are imperative in studying the interplay of implicit bias and health disparities.

Measures of SES

Outside of the absence of SES factors in many investigations of implicit bias, an important consideration in analyzing current research that does include class factors is the assessments of SES utilized. SES is a multidimensional construct, and traditional measurements, such as income and/or education, limits the understanding of its role. For example, years of education does not consider other types of training and income does not account for wealth and financial strain. More comprehensive, multidimensional assessments that may influence an individual's health and healthcare access should be utilized, such as insurance status, housing status (rent or mortgage), access to affordable local transportation, the experience of a stressful job or unemployment, ability to afford weekly/monthly expenses, etc.

Race and SES

There are many theories about the role of ethnicity/race and class. These different theories often can be loosely categorized into two overarching views: (1) race and SES or (2) race or SES. For the former, one theory argues that systemic racism is decreasing and is replaced

by an increase in class divisions. The latter emphasizes race cannot be reduced to class or socioeconomic status, but rather is an autonomous field, which has consequences in intergroup relations and conflicts.[34] In-depth investigation into racial/social class theories is beyond the scope of this paper, but the pertinent question is whether it is possible to disentangle race and SES.

There are multiple limitations in investigating the distinct roles of race and social class in health disparities. From a quantitative point, there is a lack of sufficiently large and geographically diverse data that include psychosocial variable, therefore statistically significant conclusions cannot be conducted. When large-scale data sources with pertinent psychosocial variables are created, such as in epidemiological research, they often lack sufficient numbers of racial minorities that could be used for race disparities research.[35] Additionally, as mentioned above, there are multiple measures of SES that can make statistical inferences highly variant. On a broader scale, the experience of poverty is not uniform, including diversity in the experience of poverty among people of color.[36]

Overall, there are currently insufficient resources that could begin to disentangle race and SES in health disparities. Therefore, research into implicit bias need to be mindful of the presence of multiple minority identities in their subjects, not equate racial status with SES, and investigate the role of class bias in the clinical encounter while controlling for other identity characteristics. Furthermore, it is of qualitative interest to conduct health provider bias research in countries outside of the United States as potentially harmful stereotypes and disparities vary among cultural contexts.

Provider Characteristics

An additional modification in future research is the need to include and analyze characteristics of the provider. Sociodemographic characteristics of providers, such as gender, race, type of healthcare setting, years of experience, and country where medical training was received, are associated with varying levels of bias.[13] One interesting provider characteristic is the relationship between provider training and experience and their levels of implicit bias. A study found that providers who interacted more with patients with Hepatitis C held more negative implicit attitudes towards intravenous drug users.[37] A separate study concluded that trained mental health professionals have more positive implicit evaluations of people with mental illness than those without training, but less than clinical graduate students.[38] Therefore, there is complexity in the relationship of experience and training with implicit biases, and this relationship is further complicated by the nature of the provider's field and work. A provider's increase in experience most likely increases or decreases their implicit biases through means of statistical discrimination and reinforcement of this probabilistic reasoning in clinical encounters.

Patient Characteristics

Healthcare professionals tend to belong to higher status groups, and medical encounters with patients of disadvantaged groups tends to be, on average, less effective and less satisfying. Few studies have investigated the perceptions of the clinical experience from the patient perspective.[39,40] From a social psychological theory, this is an important and necessary area of investigation. Social position matters for health, as those with greater socioeconomic resources and greater perceived standing in the social hierarchy have better health than those with fewer resources and lower perceived standing.[41] In societies, structural factors influence the psychological experience of social devaluation based on identity group membership via

mechanisms such as negative stereotypes, stigmatization, prejudice, discrimination, social identity threat, and expectations of bias, and these experiences of devaluation are intricately linked with health.[40]

In understanding intergroup relations, the effectiveness and satisfaction in the clinical encounter may begin to be understood. Interactions between members of two separate identity groups, such as a health provider and disadvantaged patient, are more likely to entail vigilance, threat, attributional ambiguity, miscommunication, and misperceptions (Figure 4).[40] This creates a complex problem in attempting to understand and foster intergroup, constructive interactions in the health care setting. For one, while many providers acknowledge there exists a disparity in care based on a patient's identity group status, due to the unconscious nature of implicit bias, providers are often unaware of their own prejudices and possible role in these disparities. Furthermore, patients who are members of marginalized groups may be vigilant for cues of bias, therefore recognizing the subtle cues of implicit bias by a provider. Additional complexity is added when considering the sociological concept of the Thomas theorem in which if an individual perceives a situation as real, it will be real in its consequences. Therefore, even in cases where manifestations of bias or discrimination are not present in the clinical encounter, if the patient perceives them as present there likely will be a resulting, negative outcome in the patient-provider relationship and health outcomes.

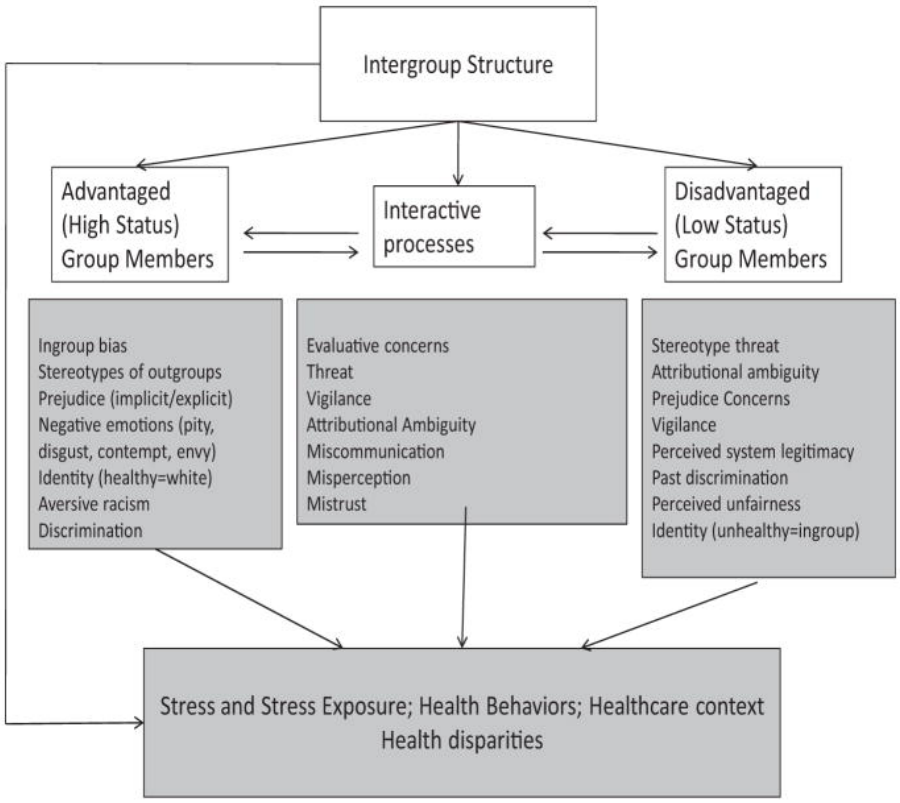

Figure 4: Overview of the possible consequences of intergroup relations on patient health factors.[40]

Nature of the Clinical Encounter

When considering the wide variation in provider characteristics, patient characteristics, and other implicated factors, such as the type of healthcare setting, it can be difficult to identify sources and manifestations of bias, and the separate question of how this bias influences the quality of care for patients of disadvantaged groups. One important element among current studies is the importance of ambiguity in bias appearing in the clinical encounter, meaning that clinical decision-making is not solely dependent on neutral, technological tests or results. For example, evaluating a patient's pain can be complex and stressing with the absence of any clear bio-markers, thus it is an individual provider's decision to determine the patient's pain level and this provides the opportunity for bias, especially intergroup bias, to be incorporated into the

medical decision. This is problematic as research has indicated providers associate low SES patients with more negative personality characteristics; such as lack of self-control, hostility, or irrationality; higher rates of noncompliance; and lower levels of intelligence, which in turn influences their clinical decision-making, health recommendations, quality of care, the patient-provider encounter, and, ultimately, patient health outcomes.[33]

These opportunistic situations for bias manifestation are common in the healthcare setting. The taxing nature of health professional jobs, including limited time, stress, and tiredness, and emphasis on empirical medicine, leading to probabilistic reasoning, further increases the risk of implicit biases appearing in the clinical encounter. The existence of a provider's implicit bias and statistical discrimination in a patient-provider interaction is difficult to self-identify and accept, and this is contrasted by a disadvantaged patient who has a history of experiencing discrimination, often leading to hyperawareness towards cues of bias. This can lead to worse patient health quality as patients may have a lower likelihood of disclosing important health issues, seeking out timely treatment in the future which is confounded by disparate access to care, or attending follow-up appointments, which could reinforce provider perceptions of non-compliance. Ultimately, this creates the opportunity for a perpetuating cycle of disadvantage and health care disparities.

Current Proposed Solutions

Some possible solutions proposed to help address implicit bias in health provider settings and reinforcing marginalization of historically marginalized populations include bias awareness strategies, bias-mitigating strategies, control strategies, perspective-taking strategies, and institutional reform.[30,14] However, these solutions do not account for the complexity of the problem at hand: the time pressure in a health care setting that may increase stereotype

application; the Bayesian approach in modern, empirical medicine; and the current lack of scope and depth in understanding the complexity of the problem. Furthermore, some current studies theorize that implicit bias may worsen as a health provider practices over time and repeated instances of certain patient situations may become ingrained and applied to an entire population group.[29] In attempting to enact effective solutions that can improve health disparity and inequality, the mechanisms that give rise to implicit bias and its role in health disparities need to be understood.

Ethnographic Approach

To address this gap in current research results and subsequent solutions, methodologies, current measurements of bias, and data analysis, a comprehensive, in-depth ethnographic study could be utilized. The structure of this study will rely on previously implicated measures of implicit bias, such as duration of the clinical encounter and communication characteristics, including time spent with the provider talking versus the patient talking, non-verbal communication, and verbiage used. Patient characteristics should be carefully documented, as should provider characteristics, especially provider age, gender, ethnicity, program of study, area of practice, clinical experience, duration of practice, and background. Additionally, patient disease and concerns should be documented, especially considering that the manifestations of bias and their consequences may vary depending on disease severity, i.e. the experiences of low SES patients presenting with may differ dramatically from low SES patients with cancer. This information should be obtained in a shadowing setting, in diverse geographical and healthcare type setting, and supplemented with post-shadowing interviews of the patient and provider about their experiences and perceptions.

The major limitation in conducting an ethnographical study would be the demand of limited resources, such as time and funding. Therefore, there are multiple avenues of improving current implicit bias research approaches. These include, but are not limited to, documenting provider and patient characteristics, transparency in research methodologies, thorough analyses of multidimensional SES factors, consideration of multiple minority identities, and improved measurements of bias.

Conclusion

Allocating resources that mitigate the social gradient of health can be best translated into effective policies if the mechanisms by which disparities arise and are perpetuated are understood. The empirical research necessary in quantifying the magnitude of disparities is distinct from the work identifying the causes of disparities. While the role of implicit biases in the provider-patient interaction encompasses a small subset of SES-associated health disparities, solutions at the level of the clinical encounter would be a protective factor against perpetuating health inequalities. Furthermore, quantitatively and qualitatively understanding the role of implicit class bias in the healthcare setting could have broader implications on social policies targeted at eliminating prejudiced practices and consequences. Ultimately, there are multiple limitations in current implicit bias research, especially implicit class bias but building from and supplementing current research could provide crucial understanding and solutions to eliminating health inequalities.

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