Non-conscious bias in medical decision making: what can be done to reduce it?

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CONTEXT Non-conscious stereotyping and prejudice contribute to racial and ethnic disparities in health care. Contemporary training in cultural competence is insufficient to reduce these problems because even educated, culturally sensitive, egalitarian individuals can activate and use their biases without being aware they are doing so. However, these problems can be reduced by workshops and learning modules that focus on the psychology of non-conscious bias.

THE PSYCHOLOGY OF NON-CONSCIOUS BIAS Research in social psychology shows that over time stereotypes and prejudices become invisible to those who rely on them. Automatic categorisation of an individual as a member of a social group can unconsciously trigger the thoughts (stereotypes) and feelings (prejudices) associated with that group, even if these reactions are explicitly denied and rejected. This implies that, when activated, implicit negative attitudes and stereotypes shape how medical professionals evaluate and interact with minority group patients. This creates differential diagnosis and treatment, makes minority group patients uncomfortable and discourages them from seeking or complying with treatment.

PITFALLS IN CULTURAL COMPETENCE TRAINING Cultural competence training involves teaching students to use race and ethnicity to diagnose and treat minority group patients, but to avoid stereotyping them by over-generalising cultural knowledge to individuals. However, the Culturally and Linguistically Appropriate Services (CLAS) standards do not specify how these goals should be accomplished and psychological research shows that common approaches like stereotype suppression are ineffective for reducing non-conscious bias. To effectively address bias in health care, training in cultural competence should incorporate research on the psychology of non-conscious stereotyping and prejudice.

TRAINING IN IMPLICIT BIAS ENHANCES CULTURAL COMPETENCE Workshops or other learning modules that help medical professionals learn about non-conscious processes can provide them with skills that reduce bias when they interact with minority group patients. Examples of such skills in action include automatically activating egalitarian goals, looking for common identities and counter-stereotypical information, and taking the perspective of the minority group patient.

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INTRODUCTION

Racial and ethnic disparities in the diagnosis, treatment, survival and prevention of disease are widely documented.[1–6] The causes of such disparities are linked to three broad factors: genetic or biological antecedents; socio-economic predictors, and psychological processes that contribute to intergroup bias. Prominent among the psychological biases that contribute to racial and ethnic disparities in health outcomes are prejudices and stereotypes transmitted by a culture and learned by the members of that culture, including professionals who work within the medical community. Hundreds of experiments have revealed that stereotypes and prejudices influence the judgement and behaviour of even egalitarian lay people without their knowledge[7] and several studies now reveal that prejudice and stereotyping impacts on how medical professionals diagnose and treat minority group patients.[8,9] Thus, it is important to develop new approaches to reducing the use of negative attitudes and beliefs by medical professionals when they provide health care services to individual members of traditionally stigmatised groups.

Training health care providers in cultural competence will play an important role in reducing the acts of insensitivity that discourage minority group patients from using health services and in decreasing the unintentional acts of discrimination that prevent minority group patients from obtaining the care they need and deserve.[10–12] However, even when health care providers are well educated about cultural differences and about the psychological biases like stereotypes that can influence their interactions with minority group patients, research indicates that there are times when they can be expected to rely on stereotypes as they provide care. This is also the case even with low-prejudiced, well-intentioned individuals stereotype ethnic and racial minority individuals when they are tired, cognitively overwhelmed or required to make quick decisions with little information.[13,14] Nevertheless, emerging research also reveals several strategies for reducing the activation and use of negative stereotypes and attitudes in judgement and interaction.[15–17] This suggests that training in cultural competence that includes instruction in the social psychology of stereotyping and prejudice can help to circumvent the non-conscious biases that contribute to unintended forms of discrimination in health care.

The purpose of this paper is two-fold. It intends, firstly, to briefly discuss how stereotyping unintentionally leaks into the way medical professionals form impressions of and treat minority group patients and, secondly, to discuss innovative approaches to training health care providers in cultural competency that can reduce the problems created by unintended bias.

THE PSYCHOLOGY OF NON-CONSCIOUS STEREOTYPING AND RACIAL BIAS

A stereotype is a mental representation, 'a cognitive structure that contains the perceiver's knowledge, beliefs, and expectations about a human group'.[18] People acquire stereotypes to help them satisfy the goal of processing and storing information in a manner that is efficient and economical in terms of the mental energy and time they have available. Almost a century's worth of empirical investigation on stereotypes has led to the consensus that the repeated use of stereotypes creates a psychological system in which both the goals that promote stereotyping and the act of stereotyping itself recede from consciousness so that stereotyping becomes implicit (invisible to those who rely on it). Research shows that this is true even when an individual has no conscious negative feelings toward the group, is educated in cultural diversity, and consciously attempts to suppress his or her use of stereotypes.[19]

The process of stereotyping occurs through two phases with dissociable and distinct sets of cognitive processes: phase 1 comprises cognitive processes that determine stereotype activation, and phase 2 comprises cognitive processes that determine whether stereotypes are used in evaluation, judgement and action toward others.[13,20] In the first phase, activation of a stereotype occurs when people categorise an individual as a member of a social group. Once that individual has been categorised, people bring to mind their beliefs about what members of that group are like: their stereotypes. Over time, categorisation can activate stereotypes without effort, awareness or intent. In the second phase of the process, people use activated beliefs as they form an impression of and interact with the target individual. As with activation, using a stereotype as a guide in how we collect information and process it does not require conscious effort or attention. However, both of these phases can be controlled if people are properly motivated and have the ability to regulate their responses.

Research indicates that health care providers automatically activate negative stereotypes about minority group members during phase 1 of the process described above. For example, we recently reported

that exposure to African-American patients automatically activates negative stereotypes held by White doctors (G. B Moskowitz, A. Childs and J. Stone, unpublished data). Using a common reaction time task, doctors were asked to quickly indicate whether a series of words presented on a computer screen were real medical terms or not. Prior to each word, the face of an African-American or a White male was subliminally (outside of conscious awareness) flashed on the screen. If their ability to recognise the words was unknowingly impacted by exposure to the face they could not consciously see, it would indicate that a racial stereotype was automatically activated by the non-conscious detection of the face. The results showed that, as predicted, the doctors were faster to recognise diseases and conditions stereotypically associated with African-Americans when a Black face rather than a White face was subliminally presented. They also showed facilitation for words related to drug abuse when exposed to a Black rather than a White face, although African-Americans do not suffer disproportionately from this condition. This suggests that negative stereotypes about African-Americans that are linked to poverty and crime leaked into the doctor's ability to recognise these words as medical terms.

Stereotype activation has also been shown to manifest itself in phase 2 of the stereotyping process during the clinical diagnosis and treatment of minority group patients. For example, Green *et al.*[9] reported that whereas White doctors reveal equally positive feelings for White and African-American patients on explicit measures, on implicit measures these doctors reveal negative feelings toward African-Americans. Moreover, whereas explicit measures of prejudice had no effect on behaviour, non-conscious feelings did: the more strongly they held an implicit bias, the less likely the doctors were to recommend a preferred treatment for the African-American compared with the White patient, although both presented the same symptoms. Non-conscious negative feelings – implicit prejudice – against African-Americans can negatively impact the way health care providers diagnose and treat an African-American patient.

The importance of these findings for medical professionals is that, when activated, implicit negative attitudes and stereotypes can bias the way they evaluate and behave toward minority group patients, which can make such patients uncomfortable when they seek care. Research in social psychology shows that during an intergroup interaction, people have conscious access to their explicit biases and are able to monitor and control them so as to mitigate their impact on their behaviour. It is not only explicit behaviours that are likely to be guided by explicit attitudes and beliefs; a perceiver's beliefs about the target person, beliefs about his or her own behaviour and beliefs about how the interaction is going are also likely to be guided by his or her explicit or conscious attitudes toward and beliefs about the target group.[21]

The problem is that people also have implicit attitudes and beliefs that contribute to how they respond to target individuals. While their attention is focused on controlling their explicit biases, their implicit attitudes and beliefs can leak out through non-verbal behaviours, such as eye contact, speech errors and other subtle avoidance behaviours that convey dislike or unease in the presence of minority group patients.[21,22] Thus, implicit forms of discrimination are more likely to be guided by implicit attitudes and beliefs, thus indicating the path by which unintentional forms of bias seep into the way medical professionals communicate with and treat a minority group patient.

How does the disjunction between implicit and explicit responses by the health professional impact the minority group patient? The patient's perspective allows him or her to attend to both the explicit behaviours and verbal responses that are under the control of the medical professional. However, the patient also pays attention to the implicit non-verbal behaviours and spontaneous verbal responses (tone, pitch, affect) exhibited by the provider. When communication modalities are inconsistent with one another, such as when the implicit verbal is inconsistent with the explicit behavioural response, and when the explicit verbal is inconsistent with the implicit behavioural response, this inconsistency can be detected by minority group individuals and this leads them to perceive that the doctor or nurse is biased against them.

Dovidio *et al.*[21] reported a dramatic example of this process. They asked White college students to first complete implicit and explicit measures of their attitudes toward African-Americans. As part of a second unrelated study, the White participants then engaged in a 3-minute 'getting acquainted' exercise with two other students (actually confederates), of whom one was White and the other was African-American. The interactions were videotaped. After the interactions, both the White participants and the African-American confederates completed ratings of the interaction, including their impressions of those with whom they had interacted. The primary dependent measures were ratings of how friendly each thought they themselves were and how friendly they thought the other person was.

The results showed that White participants generally held negative implicit attitudes toward African-Americans, which did not correlate with their explicit attitudes toward African-Americans. The explicit measures of prejudice predicted explicit verbal behaviours, whereas implicit measures did not. Implicit measures of prejudice predicted implicit, non-verbal behaviours, whereas explicit measures of prejudice did not. Thus, implicit attitudes influenced non-verbal forms of bias, like mannerisms, eye contact and speech errors, whereas explicit attitudes influenced explicit forms of bias, such as the content of the conversation.

There were also consequences for the African-Americans. When they rated the perceived friendliness of the person with whom they had interacted, the White partner's implicit rather than explicit attitudes predicted the African-American partner's ratings. The ratings of the confederate and observers also correlated, indicating that bias was perceived not only by the target; independent coders could also detect bias in the non-verbal behaviours of the White participants. However, the White participants were unaware of their bias: their sense of how well the interaction unfolded was guided by their explicit responses only and thus they saw (erroneously) the interaction as going well. This suggests that implicit racial biases can impact on not only a medical professional's behaviour toward a minority group patient, but also on how the minority group patient feels about the interaction with the provider; however, the provider may never come to realise why the patient failed to return or to take the medical advice he or she was given.

To reduce the potential for non-conscious forms of bias to influence patient care, it is important that medical professionals learn how to circumvent the processes that lead to the implicit activation and use of racial and ethnic biases when they interact with minority group patients. The response to this concern by most health professional schools is to train medical professionals in *cultural competence*. However, there may be important limitations to how well current training in cultural competence addresses the automatic activation and use of bias by medical professionals.

THE PITFALLS OF TRAINING IN CULTURAL COMPETENCE

At the broadest level, cultural competence describes the ability of systems to provide care to patients with diverse values, beliefs and behaviours, including their tailoring of delivery to meet patients' social, cultural and linguistic needs.[23] At the individual level, it refers to the ability of health care providers to value diversity and similarities among all peoples, engage in cultural self-assessment at the individual and organisational levels, understand and effectively respond to cultural differences, and adjust the delivery of services and enabling supports to accommodate the cultural scripts of specific minority groups.[10,12,25]

To help health care providers achieve these goals, the US Department of Health and Human Services, Office of Minority Health (DHHS-OMH) created the National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health Care.[24,25] In addition to developing a diverse staff that reflects the racial and ethnic demographics of a local community, the CLAS standards specify that health care organisations should ensure that their staff receive ongoing education and training in culturally and linguistically appropriate service delivery. For example, when treating patients of Hispanic descent, medical and nursing students are taught to appreciate and respond to culturally based beliefs and attitudes that influence how Hispanic people experience illness, make decisions about the course of treatment, and respond to advice about prevention.[11,26] Three health-related traditions common in Hispanic culture include *familismo* (family involvement in medical decision making, which reduces the patient's control over the treatment and course of illness), *machismo* (gender roles that give males the power to make medical decisions for females in the family) and *fatalismo* (the belief that health and illness are preordained and, therefore, beyond control). Medical professionals learn that these traditional scripts vary according to social class and level of acculturation, and learn to be sensitive to these concerns as they acquire information, make a diagnosis and recommend treatment and prevention measures to Hispanic patients.

Although the CLAS standards provide a sweeping and comprehensive set of guidelines about the importance of training in cultural competence, and about what professionals should know about the roles of race and ethnicity in health care, they do not specify how these standards should be taught and are not specific about the content of the materials. Our experience in teaching courses on prejudice to former undergraduate students who now populate the medical profession suggests that care must be taken in what and how they are taught to appreciate diversity. For example, the

group categorisation process that facilitates the use of cultural knowledge is also the mechanism that promotes stereotyping. To help the medical professional walk the thin line between the activation of cultural knowledge and the use of stereotypes, it might make intuitive sense to caution against overgeneralising cultural differences when he or she interacts with minority group patients. However, research on stereotyping finds that although teaching people how to avoid explicit bias may control it at certain points in an interaction, it may also, ironically, increase the likelihood that stereotypes are activated and unknowingly used early in the impression formation and interaction process. This can occur either as a result of rebound effects, whereby conscious attempts to suppress stereotypes lead to their greater implicit activation,[27,28] or as a result of the necessity of using information about ethnic and racial differences in making basic assumptions during an interaction. Thus, although well-informed training in cultural competence may curtail 'downstream' forms of bias, it may fail to prevent stereotypes from becoming activated outside awareness at the outset of an interaction.

This opens the door to the possibility that cultural competency training will promote stereotype activation and unknowingly influence how medical professionals interact with minority group patients. Specifically, if negative stereotypes about ethnic and racial minorities are implicitly activated when a doctor or nurse meets and conducts an initial intake interview with a new patient, the stereotypes may influence the types of questions that are asked, the information that is acquired and recorded, and nonverbal behaviours like eye contact, facial expressions and physical contact, which may impact on the comfort and responses of the patient. To reduce these problems, health care providers need to learn how to avoid using ethnicity- and race-based expectations until after the information about a patient has been accurately recorded.

TRAINING IN IMPLICIT BIAS CAN ENHANCE CULTURAL COMPETENCE

We believe that, based on the emerging research,[29] it is possible to create a workshop or other training modality for medical professionals to provide them with information, personal examples and strategies for controlling the activation and use of implicit ethnic and racial biases. A major focus of the workshop is to train health care professionals in strategies known to inhibit stereotypes and attitudes so that attributes linked to ethnicity and race will only be introduced during the provider–patient interaction at points at which they are required to aid in diagnostic decisions, rather than being introduced unknowingly at times when the provider would desire greater accuracy and individuating information about the patient.

Learning about implicit bias

The workshop starts by carefully introducing students to the nature of intergroup bias. This is a delicate topic for many and research shows that confronting people right off the bat tends to cause anger and motivate resistance to the information.[30–32] Thus, the workshop begins with a broad discussion of the psychological building blocks of bias and how it impacts judgement and interaction. The instructor or facilitator should begin by defining the concepts of prejudice, stereotyping and discrimination, and by talking about how they are conceptually distinct but interact with one another to influence cognition, emotion and behaviour. A good way to facilitate comprehension is to lead the class through a discussion of each construct by showing them examples that appear in the news, Internet or other media. The discussion also allows instructors to gauge the overall level of concern and to attend to individuals who may be especially uncomfortable talking about the topic.

The next section of the workshop introduces students to the concept of implicit cognition and implicit forms of bias. The materials focus on the difference between implicit and explicit stereotypes and prejudice, on theoretical perspectives on how implicit biases are developed and the functions they serve, and, finally, on how they are measured.

Experiencing implicit bias

Next, participants are led through several classroom examples that demonstrate the implicit nature of stereotypes and prejudice, including illustrations of how the activation of stereotypes creates errors in perception. Learners then participate in an in-class demonstration of the well-documented Implicit Associations Test (IAT).[33,34] If computer resources are available, students complete one of the many IAT measures of racial or ethnic bias to receive a score. These are then shared and discussed. Another powerful way to demonstrate the bias is to perform an in-class version of the IAT in which students clap on their legs in response to pairings. This demonstration allows the audience to not only 'feel' the relative

difficulty of responding to stereotype-inconsistent pairings (e.g. female–science) compared with stereotype-consistent pairings (e.g. male–science), but also to 'hear' the relative low versus high variability of responses in the audience to the consistent versus inconsistent pairings. In our experience, the in-class demonstration is less intimidating and generates considerable discussion among workshop participants.

It is important to end the demonstration with a presentation of data from experiments on implicit prejudice and stereotyping in order to reinforce the main point of the exercises: all people harbour implicit biases that 'leak' into their judgements and behaviours, including health care professionals when they interact with minority group patients.[9] Making students mindful of their implicit biases is designed to activate their egalitarian goals and their desire for information relevant to achieving these goals. They should then be especially motivated to process, retain and use the strategies for reducing bias that are provided in the next section.

Strategies for preventing implicit bias

The final section of the workshop teaches participants how to reduce the activation and use of implicit bias in their judgement of and interaction with minority group patients. Emerging research shows that the implicit and explicit cognition systems are connected and that people can use explicit processes to change and control their implicit responses.[16,17,35] To accomplish this goal, students can learn about how to use four strategies that show strong potential for reducing implicit bias: pursuing egalitarian goals; identifying common identities; counter-stereotyping, and perspective taking.[36,37]

One strategy for controlling implicit stereotypes is to learn to associate minority groups with goals that promote fairness and equality.[38] When activated, egalitarian goals inhibit stereotypes by undermining and counteracting the implicit nature of stereotype activation, thereby cutting stereotypes off before they are brought to mind. Teaching participants to pursue egalitarian goals capitalises on the chronic values and beliefs already present in the majority of health care professionals. The objective is to show them how to associate their egalitarian goals with everyday tasks, such as meeting and interviewing a patient, so that performing such a task automatically triggers pursuit of the goal to be accurate, fair, unbiased and skilled in its performance, rather than letting the ethnicity of the patient trigger a stereotype.

The key to supporting health care professionals in developing this skill is to help them better articulate their egalitarian goals and train them to identify patients as representing opportunities to pursue their goals of helping others.[39] Each time the health care professional encounters a minority group patient, that patient can serve as a cue to trigger the pursuit of goals and strategies that have the double benefit of obtaining more accurate responses and reminding the provider of his or her primary incentive. The first step is to have students define what egalitarianism means and how it relates to their health care activities at work. The instructor can use the responses participants generate to identify and address inaccuracies in how they construe the goal and its implementation. Next, it is important to show them that simply forming conscious egalitarian goals may be insufficient to reduce implicit bias. To illustrate this, participants are asked to reflect on one example from the recent past in which they failed to act according to those goals while interacting with a minority group patient. To help students use their egalitarian goals to reduce the potential for implicit bias, the instructor can then present theory and research showing how people can use their shortcomings as cues to trigger their pursuit of their egalitarian goals. Research indicates that learning to use a minority group patient's race or ethnicity as a cue for pursuing egalitarian goals will: (i) motivate professionals to collect detailed, individualised information about a patient, and (ii) inhibit the implicit activation of negative stereotypes about the patient's social group.[40]

Another mechanism for reducing implicit forms of bias is to change the way patients are categorised, which can be accomplished by focusing on a shared, common identity.[41] Research finds that, because people belong to a variety of social groups, in the process of forming an impression of a person, the act of triggering one group identity inhibits the activation of other identities and also inhibits the stereotypes associated with the other identities. One strategy for this re-categorisation requires the professional to ask questions about group or other social identities, interests and activities that he or she may share with the patient. Shifting attention from the patient's race or ethnicity to some other category (gender, occupation, hobby, etc.) can inhibit the activation of implicit negative stereotypes. Of course, cultural competency requires that the racial and ethnic group membership of the patient should be considered, but medical professionals could be taught to reserve such categorisation until it is absolutely necessary for making appropriate medical decisions.

Collecting information about counter-stereotypical attributes and behaviours can also mitigate the activation of implicit stereotypes. Counter-stereotyping involves providing information that is opposite to the cultural stereotypes about a group. Research shows that even when a person is categorised as belonging to a stereotyped group, the stereotype can be inhibited if the perceiver develops new associations to that group.[36] Thus, if a provider can learn how to acquire information that is counter to the specific negative beliefs he or she holds about a minority group, eventually the counter-stereotypical associations become linked to the group and automatically activated when the provider meets a patient from the group. To help them acquire counter-stereotypical information about a new minority group patient, participants can perform exercises designed to help them develop and ask questions that are likely to reveal the patient's individualised attributes and behaviours.

Finally, a fourth strategy for reducing the activation of implicit stereotypes involves taking the perspective of the minority group patient. Research shows that when perceivers are encouraged to imagine and appreciate the difficult situation faced by a stigmatised individual or group, they are less likely to activate negative stereotypes about the group and better able to feel more self–other overlap, empathise with the injustice in the group's plight, and adopt a more favourable impression as a result.[42–44] To help workshop participants learn to take the perspective of their minority group patients, they are asked to complete an exercise in which they view a picture of a minority group male or female patient and write a brief story about a day in the life of that patient. They can then share their stories with the class to help paint a more complete picture of the group's perspective on that person's health care.

Although all of the strategies described above have been empirically verified, their validity and the impact of a workshop that teaches them have yet to be assessed in a nursing or medical school context.

CONCLUSIONS

Research in social psychology on prejudice, stereotyping and discrimination shows that although many biases are conscious and deliberate, the expression of bias is often unintentional because people hold negative attitudes and stereotypes at a non-conscious or implicit level. Thus, implicit biases may leak into the way health professionals acquire information on and diagnose and treat minority group patients. However, training health care providers to control their implicit biases can mitigate the impact of implicit bias. Our hope is that this will allow providers to take significant steps toward understanding and reducing the role of non-conscious prejudice and stereotyping in the care provided to minority group patients. More broadly, involving both health care providers and patients in the bias reduction process has the potential to enhance the health care provider's use of cultural competency and improve the minority group patient's participation in his or her care. Both of these outcomes, in turn, can improve communication between provider and patient, which will lead to better diagnosis and treatment recommendations and enhanced health literacy for minority group patients.

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