A Comparison of Clinicians’ Racial Biases in the United States and France

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**Abstract**

**Rationale:** Clinician bias contributes to racial disparities in healthcare, but its effects may be indirect and culturally specific.

**Objective:** The present work aims to investigate clinicians’ perceptions of Black versus White patients’ personal responsibility for their health, whether this predicts racial bias against Black patients, and whether this effect differs between the U.S. and France.

**Method:** American (*N* = 83) and French (*N* = 81) clinicians were randomly assigned to report their impressions of an identical Black or White male patient based on a physician’s notes. We measured clinicians’ views of the patient’s anticipated improvement and adherence to treatment and their perceptions concerning how personally responsible the patient was for his health.

**Results:** Whereas French clinicians did not exhibit significant racial bias on the measures of interest, American clinicians rated a hypothetical White patient, compared to an identical Black patient, as significantly more likely to improve, adhere to treatment, and be personally responsible for his health. Moreover, in the U.S., personal responsibility mediated the racial difference in expected improvement, such that as the White patient was seen as more personally responsible for his health, he was also viewed as more likely to improve.

**Conclusion:** The present work indicates that American clinicians displayed less optimistic expectations for the medical treatment and health of a Black male patient, relative to a White male patient, and that this racial bias was related to their view of the Black patient as being less personally responsible for his health relative to the White patient. French clinicians did not show this pattern of racial bias, suggesting the importance of considering cultural influences for understanding racial biases in healthcare and health.

**Keywords:** Clinician Bias, Cross-Cultural Differences, France, Healthcare Disparities, Personal Responsibility, Racial bias

**Introduction**

In the United States, relative to White people, Black people experience higher mortality rates, even when controlling for socioeconomic status (SES) and disease progression (Priest & Williams, 2018; Richman, Pascoe, & Lattanner, 2018). One factor that contributes to Black patients’ worse health outcomes is clinicians’ racial biases (Cooper et al., 2012; Zestcott, Blair, & Stone, 2016). Clinicians treat Black patients differently from White patients, which contributes to disparate health outcomes (Penner et al., 2013; van Ryn et al., 2011). For example, compared to White patients, Black patients are less likely to be referred for advanced cancer treatment like chemotherapy and radiation (Morris et al., 2018), are less likely to receive appropriate antibiotics (Gerber et al., 2013), are more likely to have their heart attack symptoms missed in the emergency room (Pope et al., 2000), and are less likely to experience positive, trust-building interactions with clinicians (Penner, Phelan, Earnshaw, Albrecht, & Dovidio, 2018). However, less is known about the specific views that clinicians hold about racial groups, and about whether these views are consistent across countries (van Ryn & Fu, 2003). Further, while past work has investigated physicians’ biases, there is a gap in research incorporating all the healthcare professionals that work with patients, termed “clinicians” in the present work (including, for example, nurses, technicians, and physicians’ assistants as well as physicians). The present work thus investigated clinicians’ perceptions of patients’ personal responsibility for their health, and compared results in the U.S. and in France. France is a conceptually relevant comparison to the U.S. because it is also a majority-White, Western country that is socioeconomically similar to the U.S. but that has a different racial past.

**Racial Bias in U.S. Healthcare**

In the U.S., Black patients generally receive lower quality medical care than do White patients (for a review, see Penner et al., 2018). Racial disparities in the quality of care occur even when Black and White people have the same access to highly resourced hospitals and advanced procedures (Epstein, Gray, & Schlesinger, 2010). The overall pattern of findings relating to racial healthcare disparities suggests that physicians’ racial biases favoring White over Black patients may affect their treatment decisions and contribute to the racial gap in health outcomes (Chapman, Kaatz, & Carnes, 2013). Moreover, while physicians generally consider their medical decisions to be objective, patient race may affect their decisions indirectly and outside of their awareness (Calabrese, Earnshaw, Underhill, Hansen, & Dovidio, 2014; van Ryn, Burgess, Malat, & Griffin, 2006).

**Personal Responsibility**

Traditionally, personal responsibility has been described as a negative characteristic: reflecting blameworthiness for one’s compromised condition, and therefore deservingness of prejudice. For example, past research suggests that negative attitudes towards the poor are driven by the perception that the poor are personally responsible, or at fault, for their poverty (Zucker & Weiner, 1993). In the healthcare context specifically, when obese people are perceived as being personally responsible for their health conditions, they are more likely to experience discrimination (Crandall & Martinez, 1996). However, in a different sense, the attribution of personal responsibility for one’s health can be a positive characteristic because it may reflect a belief that a patient is in control of his or her own future health circumstances. Consistent with this framing of personal responsibility, evidence suggests that people who are more personally responsible for their outcomes are more likely to take matters into their own hands when faced with difficult decisions to change their outcomes (Mittal & Griskevicius, 2014). In the present work, we focus on this latter, positive connotation of personal responsibility that describes patients’ abilities to solve their health problems, rather than the former, negative connotation of personal responsibility that describes patients’ blameworthiness. Thus, we predicted that personal responsibility would be associated with more positive predictions about patients’ recovery and adherence.

In the present work, we investigated clinicians’ views of Black versus White patients’ personal responsibility to determine whether racial differences in this perception account for disparate evaluations of comparable Black and White patients. We measured clinicians’ views of a hypothetical patient’s anticipated improvement and adherence to treatment. We hypothesized that a patient who is seen as being more “personally responsible” for his or her health would be anticipated to improve and adhere more, because he or she is seen as being able to take action to improve health. We further predicted that clinicians would perceive Black patients as less personally responsible than White patients due to prevalent negative racial stereotypes about Black people, and therefore would rate Black patients as being less likely to improve and adhere. Thus, Black patients would receive bias from clinicians via the perception of their personal responsibility.

**Cross-Cultural Comparison of Bias: U.S. and France**

The second novel aspect of the present study is the cross-cultural comparison of clinicians’ racial bias. We chose France for comparison because it is in a similar socioeconomic position to the U.S., yet has historically different race relations, beliefs about personal responsibility, and cultural values (Fysh & Wolfreys, 2003; The World Bank, 2014).

Personal responsibility does not carry the same importance in French culture as in American culture. American culture is characterized by a strong belief in a just world, or tendency to see individuals as being the direct causes of their own outcomes (Crandall et al., 2001). Americans also have strong beliefs in individualism: the view that individuals, as opposed to collectives or systems, hold primary control over outcomes in society. In fact, the U.S. ranks first in individualism among the 53 countries on Hofstede’s Individualism Index (Hofstede & Hofstede, 2001). A strong belief in individualism leads Americans to heavily scrutinize individuals’ roles in causing their own outcomes, such that a person with good outcomes is perceived to have high personal responsibility, and someone with negative outcomes is perceived to have low personal responsibility. Thus, we expect American clinicians to associate personal responsibility significantly more with the White patient than with the Black patient.

French culture emphasizes individualism relatively less than American culture does. Relative to other wealthy Western nations that are among the very highest on Hofstede’s Individualism Index (Hofstede & Hofstede, 2001), France is among the most collectivistic on the spectrum of individualistic to collectivistic: it is ranked 11th on Hofstede’s Individualism Index. Collectivism is the tendency to view groups or collectives as being in primary control of outcomes (Crandall & Martinez, 1996; Oyserman, Coon, & Kemmelmeier, 2002). Because French compared to American culture places a greater emphasis on shared responsibility for outcomes, French people are less likely to associate good or bad outcomes with individual personal responsibility, because outcomes are not seen as being purely in the individual’s control. Thus, we predicted that country would moderate bias, such that American clinicians would associate personal responsibility more strongly with the White patient than the Black patient to a greater degree than would French clinicians.

Because France has a different racial past than the U.S., it serves as an ideal country for comparison of modern-day perceptions of race. For example, in France it is illegal to collect racial statistics after a law passed in 1978 (Simon, 2008). This points to an entirely separate set of issues surrounding race in France, stemming from the inability to quantify racial inequalities. However, in the context of the present work, this difference in cultures around race indicates that the U.S. and France are useful points of comparison to investigate how country and culture affect racial perceptions. France is also a useful comparison to the U.S. because France’s history of racism is less specific to Black people than is America’s history of racism. French history has depended less on Black slavery than has American history. Unlike in the U.S., where the broader category of Black people tends to be viewed as the prototypical marginalized racial group, in France, Maghrebis, or North African immigrants, tend to be thought of as the primary marginalized racial group (Fysh & Wolfreys, 2003).

Because of these historical and cultural differences between the U.S. and France with regards to race, we expected not to find the same pattern of racial bias among American and French clinicians. In the U.S., we anticipated that perceptions of the Black patient’s lower personal responsibility would explain American clinicians’ racial bias against the Black patient. However in France, we expected personal responsibility not to differ significantly between the Black and White patient, and that personal responsibility would not significantly predict racial bias.

**The Current Research**

The goals of the current study were to determine whether a hypothetical Black and White patient are perceived as significantly different in their personal responsibility, to investigate whether this difference predicts racial bias, and to compare the results in the U.S. to those in France. The hypotheses were as follows.

Hypothesis 1: Country will moderate bias against the Black patient, such that racial bias will be stronger in the U.S. than in France. Hence, clinicians in the U.S. will rate the Black patient as less likely to improve, less adherent, and less personally responsible than the White patient, and American clinicians will display this bias to a greater degree than French clinicians will.

Hypothesis 2: Personal responsibility will explain (mediate) bias against the Black patient compared to the White patient—measured through improvement and adherence—in the U.S., but not in France. Specifically, in the U.S., because the Black patient will be perceived as less personally responsible than the White patient, he will be rated as less likely to improve and adhere.

**Method**

**Participants**

Participants (*N* = 164) were recruited to complete a survey in exchange for being entered in a lottery to win $100. All participants were 18 years of age or older. The participants worked at hospitals in Nice, France (*N* = 80) and in Chicago, IL, USA (*N* = 83) respectively. Their occupations included doctors (35.4%), nurses, (30.5%), and other roles such as medical students, nursing students, technicians, physicians’ assistants, and nurse practitioners (31.7% combined as “other”), with 4 who did not report their occupations (2.4%).

Participants were not asked for additional demographic information beyond their occupations due to the need to maintain their anonymity in the small hospital setting.

**Materials**

**Target patient notes.**Participants read an excerpt of a physician’s notes on a patient visit that were created for the purposes of the current study (see the supplemental online materials). The patient’s “Ethnic background” was listed as either “White” or “Black,” and the notes indicated the physician’s diagnosis of hypertension. The notes were developed in collaboration with a panel of physicians, were translated with a French language expert, and were judged to be accurate depictions of medical consultation notes. Originally, we also intended to investigate the impact of perceiving a patient as being at fault for his or her obesity. Thus, patient notes also included a fault condition, such that the patient was either depicted as being at fault for his condition or not (differences highlighted in italics in the online supplement). However, the fault condition did not moderate the significant interaction effects of race and country on the dependent variables. Specifically, fault had a significant main effect on both adherence, *F*(1,153) = 13.07, *p* < .001, η2 =.090, and personal responsibility, *F*(1,149) = 6.56, *p* = .015, η2 = .054, but no significant two- or three-way interaction effects, all *F*s < 3.55. Therefore results were collapsed across the fault condition for subsequent analyses.

**Patient improvement.** (*r*France = .54, *p* < .01; *r*US = .57, *p* < .01; 2 items). Patient improvement was measured on a scale of 1 (*not at all likely*) to 7 (*very likely*). The items were “How likely is it that the patient’s condition will improve?” and “When it comes down to it, DO YOU actually think the patient’s condition will improve? (yes or no).” The forced-choice item and the Likert-type item were correlated across samples, *r*(162) = .57. Responses to both the Likert scale item and the forced-choice item were first converted to z-scores and then averaged to form the patient improvement scale, with higher numbers indicating greater perceived likelihood of improvement.

**Patient adherence.** (αFrance = .82, αUS = .84, 4 items). The adherence scale (sample item: “How likely is it that the patient will take the recommended prescriptions?”) assessed the participant’s impression of the likelihood that the patient would adhere to the doctor’s recommendations on a scale from 1 (*not at all likely*) to 7 (*very likely*). Responses were averaged to form the patient adherence scale, with higher numbers indicating greater perceived likelihood of adhering to treatment.

**Personal responsibility.** (1 item). The personal responsibility item assessed the participant’s perception of how personally responsible the patient was for his health on a scale from 1 (*not at all*) to 7 (*very much*). The item asked, “Do you think the patient is personally responsible for his weight?” In the scenario presented, the patient’s health condition was described as being closely associated with his weight, therefore this question refers to the patient’s personal responsibility for his presenting health condition. On the personal responsibility scale, higher numbers indicated greater clinician’s perception that the patient was personally responsible for his health.

**Design and Procedures**

The design of the study was a 2 (target patient race: White, Black) × 2 (country: U.S., France) between-subjects design. Participants were recruited during their daily duties by seeing fliers posted on bulletin boards in the hospital, as well as through seeing the study publicized by the primary researcher at a table in the staff lounges. Participants completed the studies either in their offices, or in these staff lounges. Participants were told that they would be reading a short excerpt of patient history notes written by a physician, and that the study measured physicians’ “note-taking effectiveness” by assessing participants’ comprehension of the notes. Participants were randomly assigned to view the target patient notes attributed either to a Black male patient, or to the identical White male patient. Participants then completed the improvement, adherence, and personal responsibility scales in a random order. Finally, participants were fully debriefed and offered a chance to enter the lottery for a monetary award. The identical procedure was utilized with both French and American participants. The sample includes people who elected to participate and completed the whole survey. In a few cases, one or more questions were inadvertently left blank. For each analytic procedure described below, participants with missing data on any variable involved were excluded. We did not attempt to impute missing values.

**Conceptual Equivalence**

Following the procedures to ensure conceptual equivalence across cultures outlined by Crandall and Martinez (1996), all survey materials appeared solely in English for U.S. participants, and in French for French participants. To arrive at accurate translations, we modeled back-translation procedures on standard accepted practices (Lonner & Berry, 1986; Triandis & Berry, 1980). This process involves sequential translations of all materials between the original language (i.e., English) and target language (i.e., French) by 2 different French-English bilingual speakers. The resulting French and English documents were judged to be semantically equivalent by a third bilingual French-English speaker.

**Results**

**Personal Responsibility**

First, we tested the overall effects of race and country on personal responsibility. Hypothesis 1 predicted that American clinicians would rate the Black patient as less personally responsible than the White patient, and that American clinicians would display this bias to a greater degree than French clinicians. As seen in Table 1, a two-way ANOVA examining the effects of race and country on personal responsibility revealed no significant main effect of country, *F*(1,153) = 2.86, *p* = .09, ηp2 = 0.018, although the mean personal responsibility rating appeared slightly higher in the U.S. than in France. There was no significant main effect of race, *F*(1,153) = 0.009, *p* = .92, ηp2 < 0.001. There was, however, a significant interaction effect between race and country, *F*(1,153) = 7.49, *p* = .007, ηp2 = 0.047. As expected according to Hypothesis 1, American clinicians viewed the White patient as significantly more personally responsible for his condition than the Black patient, *t*(78) = 2.08, *p* = .041, *d* = 0.46. Among French clinicians, the ratings of Black and White patients were not significantly different, *t*(75) = -1.80, *p* = .075, *d* = 0.41, and in the opposite direction, with the Black patient rated as somewhat more responsible for his condition than the White patient (see Table 1).

**Racial Bias: Improvement and Adherence**

Hypothesis 2 predicted that American clinicians would show racial biases favoring the White patient by viewing him as more likely than the Black patient to improve and adhere to treatment. Hypothesis 2 also predicted that French clinicians would not show these racial biases. As seen in Table 1 for the improvement variable, a two-way ANOVA testing the effects of race and country showed no significant main effects for race, *F*(1,159) = 0.62, *p* = .43, ηp2 = 0.004, or for country, *F*(1,159) = 2.52, *p* = .11, ηp2 = 0.016. There was, however, a significant interaction effect of patient race and country, *F*(1,159) = 5.40, *p* =.021, ηp2 = 0.033. Inter-cell comparisons revealed that American clinicians viewed the White patient as significantly more likely to improve than the identical Black patient, *t*(81) = 2.12, *p* = .037, *d* = 0.46. Further in support of Hypothesis 2, French clinicians did not predict a significantly different likelihood of improvement depending on the race of the patient, *t*(78) = -1.14, *p* = .26, *d* = 0.25 (see Table 1 for all means and standard deviations).

Results for the second dependent variable, patient adherence, similarly supported Hypothesis 2. While a Race × Country ANOVA showed no significant main effects of patient race, *F*(1,157) = 1.58, *p* = .21, ηp2 = 0.010, or of country, *F*(1,157) = 0.74, *p* = .39, ηp2 = 0.005, there was a significant interaction effect of patient race and country, *F*(1,157) = 4.24, *p* = .041, ηp2 = 0.026. As predicted, American clinicians viewed the White patient as significantly more likely than the Black patient to adhere to the doctor’s recommendations, *t*(81) = 2.42, *p* = .018, *d* = 0.53. French clinicians did not attribute a significantly different likelihood of adherence depending on the race of the patient, *t*(76) = -0.55, *p* = .58, *d* = 0.12.

**Testing for Moderated Mediation**

Hypothesis 2 also predicted moderated mediation, such that perceptions of personal responsibility would mediate racial differences in expected improvement and adherence in the U.S., but not in France (Figure 1). The results hint at this because the Black patient was perceived as less personally responsible than the White patient in the U.S., but not in France, and personal responsibility was significantly correlated with improvement and adherence in the U.S., but not in France (Table 2).

To test the possibility that the indirect effects of patient race on patient improvement and adherence via personal responsibility differed between the U.S. and France, we fit a series of linear regression models and examined indirect effects consistent with moderated mediation (Hayes, 2013; Muller, Judd, & Yzerbyt, 2005). In these models, we permitted country to moderate both the relationship between race and personal responsibility and the relationship between personal responsibility and the dependent variables. Specifically, we examined a model predicting personal responsibility on the basis of race, country, and their interaction, and a model predicting improvement on the basis of personal responsibility, race, country, the interaction between personal responsibility and country, and the interaction between race and country. Using Model 59 in the PROCESS macro for SPSS (Hayes, 2013), we estimated the mediating role of personal responsibility in each country separately by computing indirect effects based on the simple effects drawn from the full models (see Aiken & West, 1991; Hayes, 2013). We estimated the magnitude of the moderation of the indirect effect by computing the difference between the country-specific indirect effects (hereafter referred to as the “index of moderated mediation”). We used 10,000 bootstrap samples to generate confidence intervals for these indirect effects. Results from all moderated mediation models are shown in Table 3.

As we predicted, in the U.S., the indirect effect of race on improvement via personal responsibility was significant, such that the Black patient was perceived as less personally responsible, and lower personal responsibility was in turn associated with lower ratings of improvement, *b* = -0.17, 95% *CI* = [-0.41, -0.03]. Also in line with Hypothesis 2, in France, the indirect effect of race on improvement via personal responsibility was not significant (and directionally opposite due to the fact that the Black patient was perceived as more personally responsible instead of less), *b* = 0.04, 95% *CI* = [-0.03, 0.19]. As a result, consistent with our prediction, the indirect effect of race on improvement via personal responsibility was significantly different between the U.S. and France, as demonstrated by the index of moderated mediation, *b* = 0.21, 95% *CI* = [0.04, 0.47].

This discrepancy between the U.S. and France can be attributed to moderation of both key steps in the mediation model. Specifically, the tendency to rate the Black patient as less personally responsible than the White patient was significantly greater in the U.S. than in France, *b* = 1.53, *SE* = 0.56, *p* = .007, and the tendency to predict that patients higher in personal responsibility will improve more was also significantly greater in the U.S. than in France, *b* = -0.17, *SE* = 0.08, *p* = .031.

We fit similar models for the adherence dependent variable, as well. Contrary to our expectations, there was no evidence of mediation in the U.S. for patient adherence: the indirect effects were not significant in the U.S., *b* = -0.08, 95% *CI* = [-0.35, 0.03] or in France, *b* = -0.08, 95% *CI* = [-0.34, 0.01]. The indirect effect was not significantly different between countries, *b* = 0.00, 95% *CI* = [-0.25, 0.26].

**Discussion**

The present study extended the previous literature on healthcare racial bias, and addressed gaps in the literature by identifying a potential mechanism for bias mediated by personal responsibility, and a cross-country comparison of racial bias. Consistent with Hypothesis 1, country moderated bias such that American clinicians viewed the White patient as significantly more personally responsible, more likely to improve, and more likely to adhere to treatment than the identical Black patient—and they exhibited these biases to a greater degree than did French clinicians. In fact, French clinicians did not view the Black and White patient significantly differently in either improvement or adherence likelihood. The current findings are supported by the literature indicating that American clinician racial bias is consistent with societal racism, which shapes clinicians’ perceptions of their patients, which then provide the lens through which clinicians provide care (van Ryn et al., 2011).

Further, the current work used a cross-national approach—one that is relatively rare in research on the processes underlying healthcare disparities—to reveal that clinician racial bias is country-specific and thus possibly culturally rooted, because the identical procedure in France did not generate evidence for the same kind of racial bias. This work provides evidence suggesting that clinicians’ expectations and views of their patients are shaped by their patients’ races in the U.S., creating negative beliefs about their Black patients. These data do not indicate that racial bias does not exist in the French healthcare system. Rather, they leave open the possibility that different biases operate in France, with either different target groups or different stereotypes of Black people unmeasured in the current study.

The results also supported Hypothesis 2, which predicted moderated mediation for the improvement dependent variable by the personal responsibility mediator, such that the Black patient was seen as less personally responsible for his health than the White patient, and was therefore expected to improve less than the White patient. Further, the present study showed that one likely mechanism of racial bias—mediated by increased perceptions of personal responsibility predicting greater improvement and adherence ratings—differs significantly between the U.S. and France. Thus, racial bias does not work the same across different cultures and countries, and the understanding of healthcare racial bias cannot be extended accurately beyond the U.S. without country-specific measures.

**The Role of Personal Responsibility**

The present results have interesting implications for the traditional interpretation of personal responsibility within the social psychological literature. Past research suggests that people attribute personal responsibility, mirroring fault, to negatively stereotyped groups to blame them for their adverse circumstances. The perpetrators of prejudice feel justified in directing prejudice against the victimized groups because they are perceived as blameworthy, and they exhibit bias as a result (Crandall et al., 2001). In this paradigm, personal responsibility is a negative perception, and is predictive of heightened bias. We address a slightly different conceptualization of personal responsibility in the healthcare context, which focuses less on the cause of the patient’s current situation and more on the patient’s ongoing control over outcomes. Our results suggest that this kind of personal responsibility was perceived as a positive trait by American clinicians, predicting more positive views about their patients (through higher improvement and adherence ratings).

If personal responsibility can be positively valenced as an indication of personal agency, the current findings are consistent with van Ryn and Fu’s (2003) mechanism for clinicians’ contributions to racial health disparities, in that they perceive non-racially-stereotyped patients more positively than their stereotyped counterparts. This causes superior interactions, treatment, and care for the non-stereotyped patients.

**Policy Implications**

Beyond its conceptual implications, the present study may also have important policy implications. Most basically, the current research suggests that policies and interventions should be culturally tailored to address the dynamics of bias in a particular national or organization context. Our results demonstrate not only that biases against Black, relative to White, patients that could lead to lower quality care occurred primarily in the U.S., perhaps because of the unique importance of Black-White relations throughout the history of the U.S. (Sears, Sidanius, & Bobo, 2000), but also that clinician bias in the U.S. occurred indirectly. That is, clinicians in the U.S. perceived that White patients were more personally responsible for their health than were Black patients and therefore would more likely benefit from treatment. Thus, because they base their decision making on a factor that is not directly racial (see van Ryn et al.’s (2011) model of healthcare bias), U.S. clinicians who display disparate care for Black, compared to White, patients may not be fully aware that they are behaving in a racially biased way. This reasoning suggests that training U.S. medical practitioners to be aware of, and to reduce, their own biases towards their patients holds significant promise for eliminating racial health disparities in society.

Currently, significant resources are being used to fund diversity and cultural sensitivity modules in medical schools to make medical students aware of how their patients’ backgrounds affect the patients’ care needs (Smedley, Stith, & Nelson, 2003). However, there is yet no standardized curriculum to educate medical practitioners on how their own racial backgrounds and biases affect the care they provide (Smith et al., 2007). Noting this gap, White and colleagues (2017) created a training course in which they asked U.S. medical students to reflect on how their own cultural backgrounds affect the care they provide. As a result of the training course, medical students reported greater understanding of their “blind spots” (p. 6) with regards to race, and of the need for “lifelong” self-reflection in order to keep from contributing to racial health inequalities. Further research has indicated that incorporating structural racism training into premedical curricula lays important groundwork early in physicians’ training that may better enable them to be aware of their own racial biases later in their training (Metzl, Petty, & Olowojoba, 2018). The current work emphasizes the critical need for continued efforts to identify effective training procedures for clinicians and medical to help them identify how their own racial biases exacerbate health inequalities.

The personal responsibility findings in the current work hold important policy implications. The results suggest that bias against patients is reduced when patients are seen as being more personally involved in their ongoing healthcare. Thus, bias awareness training programs for medical students could be made more effective by educating students on the value of forming a partnership with patients and valuing their agency in decisions about treatment. In current curricula, the focus is more on the role of the burgeoning medical practitioner than on the doctor-patient partnership (Smedley et al., 2003). Notably, the literature indicates that Black patients are even less likely than White patients to be included by their clinicians in their treatment decisions (Penner et al., 2018). Further, Black patients whose White clinicians are high in implicit racial bias consistently report poor-quality doctor-patient relationships (Maina, Belton, Ginzberg, Singh, & Johnson, 2018). These findings highlight even more strongly that improving the equality of the doctor-patient partnership is not only central to good patient care, but is crucial to eliminating unjust disparities in how Black versus White patients are cared for, which lead to worse outcomes for Black patients. The Patient-Centered Communication Model of physician communication (Stewart et al., 2000) is becoming more widely incorporated in American medical schools to this end: to train clinicians to create equal doctor-patient relationships in their care. The present work further accentuates the critical need for such clinician training.

Once training programs to reduce bias in healthcare are in place, future work should test their effectiveness on medical students’ self-awareness of racial bias, and on the equity of their care provision. Van Ryn and colleagues (2015) successfully implemented such an assessment tool of bias change over four years of medical school. They measured the impact of students’ formal “cultural sensitivity” curriculum, their “informal” curriculum through observing the behavior of faculty role models, and their positive or negative interracial interactions. Completing the Black-White Implicit Association Test as part of students’ formal medical curriculum was a predictor of decreased implicit racial bias. By contrast, observing senior physicians make negative comments about Blacks patients and having negative interactions with Black patients were associated with increased implicit racial bias among medical students. Assessments of change in bias should continue to accompany bias training programs to gauge effectiveness.

**Limitations and Future Directions**

Results did not reveal the predicted mediation for patient adherence by personal responsibility in the U.S. (although adherence and personal responsibility were positively correlated: *r* = .19; Table 2). One explanation is that personal responsibility, in the present work, measured the patient’s degree of control over his health circumstances, as well as, presumably, his power and prudence to improve his health. In traditional conceptualizations, personal responsibility has been seen as a negative trait, similar to blameworthiness. Therefore, since personal responsibility in the present conceptualization has more to do with patient improvement ultimately than with patient behavior to adhere or not, personal responsibility may have been more logically linked to improvement than adherence predictions. Future research should more thoroughly investigate the positive and negative connotations of personal responsibility, including distinctions between control over one’s future state and blame for one’s current state; (Corrigan, 2000; Schwarzer & Weiner, 1991), and their links to bias-related outcomes.

Another limiting factor of the present work was constraints in the amount of participant demographic information that could be collected. The researchers had to weigh the benefits of additional demographic information with the costs of potentially compromising the anonymity of participants. However, it would be useful to determine whether Black clinicians show the same racial preferences as White clinicians, or whether White clinicians only express this bias. This information would be significant because the literature indicates that White clinicians demonstrate negative implicit biases against Black patients, but that Black clinicians do not demonstrate these biases (Penner et al., 2018). The demographic specificity of biases held is important to note, because it raises the question of why biases would vary between demographic groups, which could allude to what processes certain groups are using to eliminate their biases, and these processes could be implemented for groups that exhibit heightened bias. For example, if future work found that Black clinicians do not exhibit the racial bias found in this study, but that White clinicians do, this could indicate a few possible underlying processes: (1) that this bias is due to in-group preferences instead of pervasive cultural biases, (2) that Black clinicians have been able to eliminate their biases by actively working to reverse them, or (3) that cultural biases manifest differently depending on power or status. Further information about the diversity of participant gender, race, and age would help strengthen the generalizability of the findings.

We also acknowledge three main limitations of the current work associated with the differences between the two locations where participants were recruited that might have affected the data (separate from the effects of bias). The first limitation stems from the demographic differences between Chicago, IL and Nice, France as cities. Nice, France is much less socioeconomically and racially diverse than Chicago, and it is possible that decreased exposure to diversity among clinicians in Nice compared to in Chicago affected the formation of biases against certain groups among clinicians in Nice. The second limitation stems from inherent differences in organization and culture of the healthcare systems in the U.S. versus in France. Per the previous discussion, France is more collectivist culturally than the U.S., and similarly, their politics and healthcare system are based more on collectivist concepts of universal healthcare and equal rights to care for all, as opposed to the more individualistic concept of providing healthcare access based on individual needs and payment abilities in the U.S. As a result, in France it is possible that there is less of a baseline emphasis on individual, personal responsibility for health and more on system failures to provide care, while the opposite might be expected in the U.S.

The third limitation is that, although it was not raised as a concern by any of the participants, it is possible that writing the patient race on the vignette caught more attention among the French than the American clinicians, since it is less customary in France to speak openly about race than in the U.S. Future work should address these limitations by controlling for as many variables as possible that differ between the comparison locations’ demographics and healthcare systems. Future work should also communicate patient race in the vignette without drawing specific attention to it (e.g. by identifying the patient using a first name this is distinctively associated with race).

Future work should further expand upon the findings of the present study by including a normal weight control condition to clarify whether the effects observed are specific to overweight patients, or whether this is a purely racial phenomenon. This would be useful because intersectionality and cultural racism research has shown that weight affects racial perceptions: for example, perceptions about White versus Black women vary according to their weight (Hicken, Lee, & Hing, 2018). Further, future extensions on the current work should investigate clinicians’ gender and age-related biases by including these variations in the hypothetical patient vignette. This is because intersectionality research indicates that people of the same race, but who have different genders, ages, and other identities, are subject to different biases. For example, in the U.S. there are different stereotypes about to Black men versus women, and about White men versus women (Ghavami & Peplau, 2013), and could affect how clinicians perceive patients of intersecting identities, as well. Finally, our explanation for the mediation effect we observed would be strengthened if a layperson population in the United States showed the same results.

**Conclusions**

The present study addressed two gaps in the literature: (1) the mechanism by which clinicians’ racial biases cause them to have different medical views of and recommendations for Black versus White patients; and (2) a cross-country comparison to determine whether racial bias works similarly outside of the U.S. This work filled these gaps by (1) showing that perceptions of patients’ personal responsibility account for some of the racial differences in American clinicians’ predictions of patients’ improvement and adherence; and (2) revealing that racial bias may not manifest in the same way, or cannot be measured the same way, in France as in the U.S., as shown by the lack of significant racial differences in improvement and adherence ratings in France. Further, the present study demonstrated that racial bias in France works significantly differently than in the U.S., where personal responsibility mediated target racial differences in improvement and adherence ratings. Healthcare bias differs significantly across countries. This fact must be taken into account to design policy interventions that effectively combat racial health disparities.

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**Tables and Figures**

**Table 1. Dependent variable means and standard deviations by country and patient race**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | U.S. | | | | Cohen’s *d* | France | | | | Cohen's *d* |
| Black | | White | | Black | | White | |
| Mean | *SD* | Mean | *SD* | Mean | *SD* | Mean | *SD* |
| Improvement | -0.098 | 1.02 | 0.33 | 0.82 | 0.46\* | 0.004 | 0.83 | -0.21 | 0.84 | 0.25 |
| Adherence | 3.77 | 1.28 | 4.41 | 1.12 | 0.53\* | 4.33 | 1.18 | 4.18 | 1.30 | 0.12 |
| Personal Responsibility | 4.52 | 1.77 | 5.32 | 1.63 | 0.46\* | 4.82 | 1.81 | 4.08 | 1.78 | 0.41 |

*Note. N*s range from 80 to 83 in the U.S., and from 77 to 80 for France. High scores indicate greater levels of each variable.

\**p* < .05

**Table 2. Correlations among dependent variables by country**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Improvement | Adherence | Personal Responsibility |
| Improvement | \_\_ | .28\* | .13 |
| Adherence | .52\*\* | \_\_ | -.15 |
| Personal Responsibility | .43\*\* | .19\* | \_\_ |

*Note.* Correlations below the diagonal are for American clinicians; those above the diagonal are for French clinicians. *N*s range from 80 to 83 in the U.S., and from 77 to 80 for France. High scores indicate greater levels of each variable.

\*\*\**p* < .001, \*\**p* < .01, \**p* < .1

**Table 3. Results of models testing indirect effects of race on improvement and adherence via personal responsibility, moderated by country**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Slope | *SE* | *p*-value |
| Model predicting personal responsibility | | | |
| Intercept | 5.32 | 0.28 | < .001 |
| Race (Black) | -0.79 | 0.39 | .045 |
| Country (France) | -1.24 | 0.40 | .002 |
| Race × country | 1.53 | 0.56 | .007 |
| Model predicting improvement | | | |
| Intercept | -0.90 | 0.33 | .006 |
| Personal responsibility | 0.22 | 0.06 | < .001 |
| Race (Black) | -0.18 | 0.19 | .34 |
| Country (France) | 0.47 | 0.41 | .26 |
| Personal responsibility × country | -0.17 | 0.08 | .031 |
| Race × country | 0.35 | 0.27 | .20 |
| Model predicting adherence | | | |
| Intercept | 3.74 | 0.47 | < .001 |
| Personal responsibility | 0.10 | 0.08 | .19 |
| Race (Black) | -0.44 | 0.28 | .11 |
| Country (France) | 0.95 | 0.59 | .11 |
| Personal responsibility × country | -0.22 | 0.11 | .053 |
| Race × country | 0.62 | 0.39 | .11 |
| Indirect effects: Race → PR → improvement (estimate and 95% *CI*) | | | |
| In the United States | -0.17 [-0.41, -0.03] | | |
| In France | 0.04 [-0.03, 0.19] | | |
| Difference between US and France (index of moderated mediation) | 0.21 [0.04, 0.47] | | |
| Indirect effects: Race → PR → adherence (estimate and 95% *CI*) | | | |
| In the United States | -0.08 [-0.35, 0.03] | | |
| In France | -0.08 [-0.34, 0.01] | | |
| Difference between US and France (index of moderated mediation) | 0.00 [-0.25, 0.26] | | |

**Figure Captions**

*Figure 1*. *Mediation model predicted for the U.S.*The predicted mediation by the personal responsibility variable of the racial differences in improvement and adherence scores.

Patient Race

0 = White

1 = Black

Patient Improvement/ Adherence

Personal Responsibility

------------------------------------------------>

-A

B

-C

-C’

**Online Supplement**

*Note*. Italicized information was manipulated across fault conditions. The data were collapsed across the fault conditions because they did not affect the results.

Please review the following physician notes before answering a few questions. Remember, we are interested in your impressions of the doctor’s diagnosis and the patient’s condition based on the notes presented below.

Patient History Notes

**Type of visit:** New patient

**Name:** JM

**Gender:** Male

**Ethnic Background:** White/Black

**Age:** 45

**Height:** 72 in

**Weight:** 263 lbs

**BP:** 160/95 mm Hg

**BMI:** 35.7

**HR:** 85

**Chief medical complaint:** Mild headache on and off for 3 months, trouble losing weight.

**History of present illness:** Occipital headache; 3/10; no precipitating factors; relief with Tylenol. Other than occasional headaches he also feels frustrated about his weight and reports that he has tried diet plans and exercise programs on his own. He would like to lose weight and reports this is why he seeks medical attention now.

**Past medical history:** No previous/routine medical care. Was told his blood pressure was elevated at employment physical 1 year ago. Was informed of elevated blood pressure again at walk-in free pharmacy clinic 1 week ago. He does not remember the numbers.

**Family history:** Father had hypertension and coronary artery disease.

**Social history:** Alcohol - 2 drinks per week for 10 years.

**Personal history:** Works as a bank teller; at same job for past 5 years. He is married, 3 children. Noticed that he was heavier than his classmates from age 14 onwards. *Minimal physical activity – desk job. No restrictions on diet; often eats fast food (approx 3000 - 3500 calories/day)./Has been physically active throughout life, jogs in the park 3-4 times a week. Watches diet; avoids fast food (approx 2400 calories/day).*

**Review of systems:** 12-point review of systems is negative.

**Medications currently on:** None.

**Physical examination:** normal except obesity

**Laboratory findings:** Fasting glucose, cholesterol profile, and renal function - at normal target

**Diagnosis:** Hypertension/obesity

**Treatment plan:** Antihypertensive medication; *increase/maintain* physical activity: 20-30 min cardiac exercise daily (run, jog, jumping jacks, step aerobics); keep a food diary and bring to the next visit; *decrease/maintain* caloric intake *to/at* 2400 cal/day; aim to lose about 80 lbs total.

**Follow-Up:** 3-4 weeks