

## **Applying social cognitive theory to advance research in healthcare disparities**

I have written several conceptual articles in which I apply social cognitive theory to issues related to healthcare disparities. One paper (Burgess, van Ryn & Fu, 2004; *Journal of General Internal Medicine*) presents a social cognitive framework that describes how providers may unintentionally contribute to healthcare disparities via ordinary social cognitive processes, such as stereotyping, which may result in biases in clinical decision-making and poorer quality of communication with non-white and socially disadvantaged patients. Another paper (Burgess, van Ryn, Malat, & Matoka, 2006; *Pain Medicine*) applies this social cognitive framework to the problem of racial disparities in pain management, particularly related to lower willingness to prescribe opioids to non-white patients. A third paper (Burgess, van Ryn, Dovidio & Saha, 2007; *Journal of General Internal Medicine*) focuses on interventions that may help reduce the unintentional provider contribution to disparities. A fourth paper (Burgess, in press; *Medical Decision Making*) posits that characteristics of healthcare settings that increase providers' "cognitive load" (i.e., that "use up" capacity in working memory) will increase the likelihood that providers' clinical decisions will be inappropriately affected by stereotypes. My latest paper (Burgess, Warren, Dovidio, Phelan, & van Ryn, in press, *Journal of General Internal Medicine*) explores various ways in which "stereotype threat"—facing the possibility of confirming a negative stereotype associated with one's group—may contribute to racial disparities.

With my colleagues I have also developed a conceptual framework (Burgess, Powell, Griffin & Partin, 2009, *Preventive Medicine*) that explores why racial and ethnic minorities tend to be less likely than whites to provide accurate reports of cancer screening and other health behaviors. This is important since many estimates of cancer screening are based on self-reported screening behavior and there is growing concern that self-reported screening measures may be less accurate among members of racial and ethnic minority groups, which would have considerable implications for research on racial and ethnic disparities in cancer screening. . In this project, we reviewed the literature on the relationship between race/ethnicity and the accuracy of self-reported cancer screening behavior and developed a conceptual framework that would provide a deeper understanding of factors underlying this relationship, including validation studies examining the accuracy of self-reported cancer screening behaviors and articles on survey response bias. This framework is grounded in social cognitive theory and delineates two distinct mechanisms posited to underlie racial differences in the accuracy of self-report. One mechanism focuses on *cognitive* processes (involving comprehension/interpretation, memory retrieval, and judgment formation) and the other focuses on *motivational* factors (involving motivation to present oneself favorably and avoid negative impressions). We conclude that racial and ethnic minorities may be less likely to provide accurate reports of their cancer screening behavior and that overreporting may be particularly problematic. Research conducted in other areas suggests that these sources of measurement error can be moderated by question wording and data collection characteristics. At this point, however, the quality of the evidence is not strong and more research is needed before definitive conclusions can be drawn.

I have also tested aspects of the social cognitive model of health disparities via an experiment with primary care physicians (Burgess, Matoka, Phelan, Roth, Dovidio, Kerns, Saha, & van Ryn, 2008, *Social Science & Medicine*) that challenged and presented an alternative to the

typical research paradigm used to test the hypothesis that racial stereotypes contribute to bias in medical decision-making. The standard research paradigm randomly assigns physicians to respond to different versions of a clinical vignette in which only patient race is varied. If the clinical decision differs by race, it can be inferred that racial stereotypes (i.e., beliefs about race) had an influence on decision-making. However, such “de-contextualized” vignettes do not capture the types of situations in which racial stereotyping is most likely to occur. We hypothesized that the use of racial stereotypes would be “activated” when African American “patients” engaged in negative verbal and nonverbal behaviors and hence, would lead to racial disparities in physicians’ willingness to prescribe opioids for chronic low back pain. To test this hypothesis, we created an innovative “phonovella” vignette that systematically varied patient race and patient nonverbal behaviors (through the use of photographs) and patient verbal behaviors (through the use of dialogue). Unexpectedly, physicians were significantly more likely to state that they would switch to a higher dose or stronger opioid for black patients exhibiting negative or “challenging” behaviors (e.g., demanding a specific narcotic) compared to those exhibiting “non-challenging” behaviors; however, there was a trend for physicians to be less likely to escalate treatment for black patients who exhibited nonverbal expressions of anger. These findings demonstrated how the influence of patient race may be moderated by patient verbal and nonverbal behaviors, and point to the need for vignette studies to include these types of contextual factors. Presently, I am working on an experiment that will cognitive load on racial bias in medical decision-making about pain treatment (funded by the VA HSR&D Pilot Funding Mechanism)\_to test the hypothesis that providers will be more likely to be influenced by racial stereotypes under conditions of high cognitive load.