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Exploring racial influences on flu vaccine attitudes and behavior: Results of a national survey of White and African American adults

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ABSTRACT

Introduction: Racial disparities in adult flu vaccination rates persist with African Americans falling below Whites in vaccine acceptance. Although the literature has examined traditional variables including barriers, access, attitudes, among others, there has been virtually no examination of the extent to which racial factors including racial consciousness, fairness, and discrimination may affect vaccine attitudes and behaviors.

Methods: We contracted with GfK to conduct an online, nationally representative survey with 819 African American and 838 White respondents. Measures included risk perception, trust, vaccine attitudes, hesitancy and confidence, novel measures on racial factors, and vaccine behavior.

Results: There were significant racial differences in vaccine attitudes, risk perception, trust, hesitancy and confidence. For both groups, racial fairness had stronger direct effects on the vaccine-related variables with more positive coefficients associated with more positive vaccine attitudes. Racial consciousness in a health care setting emerged as a more powerful influence on attitudes and beliefs, particularly for African Americans, with higher scores on racial consciousness associated with lower trust in the vaccine and the vaccine process, higher perceived vaccine risk, less knowledge of flu vaccine, greater vaccine hesitancy, and less confidence in the flu vaccine. The effect of racial fairness on vaccine behavior was mediated by trust in the flu vaccine for African Americans only (i.e., higher racial fairness increased trust in the vaccine process and thus the probability of getting a flu vaccine). The effect of racial consciousness and discrimination for African Americans on vaccine uptake was mediated by perceived vaccine risk and flu vaccine knowledge.

Conclusions: Racial factors can be a useful new tool for understanding and addressing attitudes toward the flu vaccine and actual vaccine behavior. These new concepts can facilitate more effective tailored and targeted vaccine communications.

1. Introduction

Although immunization rates for seasonal influenza have increased over the past decade, racial disparities in adult influenza immunization rates persist with rates for non-Hispanic Black adults consistently lower than for non-Hispanic White adults [1]. In 2014–15, the Centers for Disease Control and Prevention (CDC) estimated that only 39% of Black adults were vaccinated compared to 47% of White adults [2]. Researchers have attempted to explain the disparity by documenting multiple factors on which racial groups differ: barriers to healthcare access and missed opportunities for vaccination [3,4]; beliefs and attitudes [5,6]; perceived risks of vaccination [7–9]; and socioeconomic status [1]. However, it is clear that traditional models cannot fully explain vaccine disparities.

As an alternative, we introduce an exploratory conceptual model that explores the role of race in vaccine decisions. We developed the model based on our previous survey research including our socio-ecological model on vaccine acceptance [10] and extensive qualitative research with African Americans and Whites.

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Fig. 1 outlines the hypothesized connections among measures of racial factors that relate to the experience of being either African American or White in the United States, vaccine knowledge and attitudes, and vaccine behaviors. While the concept of race is fundamental in health disparities research, many researchers have been hesitant to critically explore race. A review of public health literature demonstrated that while race was one of the most commonly used variables, it was frequently used "uncritically" and "without definition" [11]. Alternatively, we employ Public Health Critical Race Praxis, which seeks to understand the inequalities that create health disparities and to eliminate the power hierarchies that structure them [12,13]. In practice, this means emphasizing the role of race as a social construct, one that has been historically shaped and continues to be socially reinforced, and foregrounding research around the lived experience of inequality and racism as they contribute to negative health outcomes [12,14]. This approach also means viewing race as a variable that captures shared experiences of racism and racial discrimination, since as a social construct, racial classification is based on phenotype and all dark-skinned individuals share the lived experience of being "black" as they navigate life in a racialized society [15].

Evidence suggests that racial factors could affect vaccine uptake. Research demonstrates that racism is a fundamental determinant of health in the U.S. [16], operating through multiple pathways to directly and indirectly contribute to negative health outcomes [16,17]. While institutionalized and cultural racism circumscribe socioeconomic opportunities for people of color and indirectly influence health, racism may be directly experienced through prejudice, stereotypes, stigma, and discrimination [16]. Experiences of discrimination in health care contribute to medical distrust, and both perceived discrimination and distrust are associated with a lower likelihood of receiving preventive health services, including seasonal influenza vaccines [18,19]. Macintosh and colleagues (2013) found that survey participants labeled as white, regardless of their self-identified race, were more likely to get both flu and pneumococcal vaccines [20]. Recent work by Bleser and colleagues found that among chronically ill adults, those who reported perceived discrimination were about half as likely to have received a flu vaccine as those who did not report discrimination [21].

We are interested in the impact of one's race and racism in the health care setting on vaccine associated knowledge, attitudes, beliefs and norms. Our conceptual model explores novel measures that aim to understand racial factors, defining racial consciousness in the health care setting as the awareness of oneself as a racial being in that setting, and racial fairness as perceptions of whether treatment, either by government or within a health care setting, is fair to one's race. Other measures included frequency and impact of discrimination [22].

Our research questions include: (1) Are there differences between African Americans and Whites regarding the influenza vaccine in terms of vaccine knowledge and attitudes including trust, risk perception, vaccine beliefs, vaccine hesitancy and confidence, and social norms? (2) Do racial factors associated with being an African American or White in the U.S. relate to vaccine knowledge and attitudes including trust, risk perception, vaccine beliefs, vaccine hesitancy and confidence, and social norms? (3) Do racial factors relate to vaccine behaviors, and does vaccine

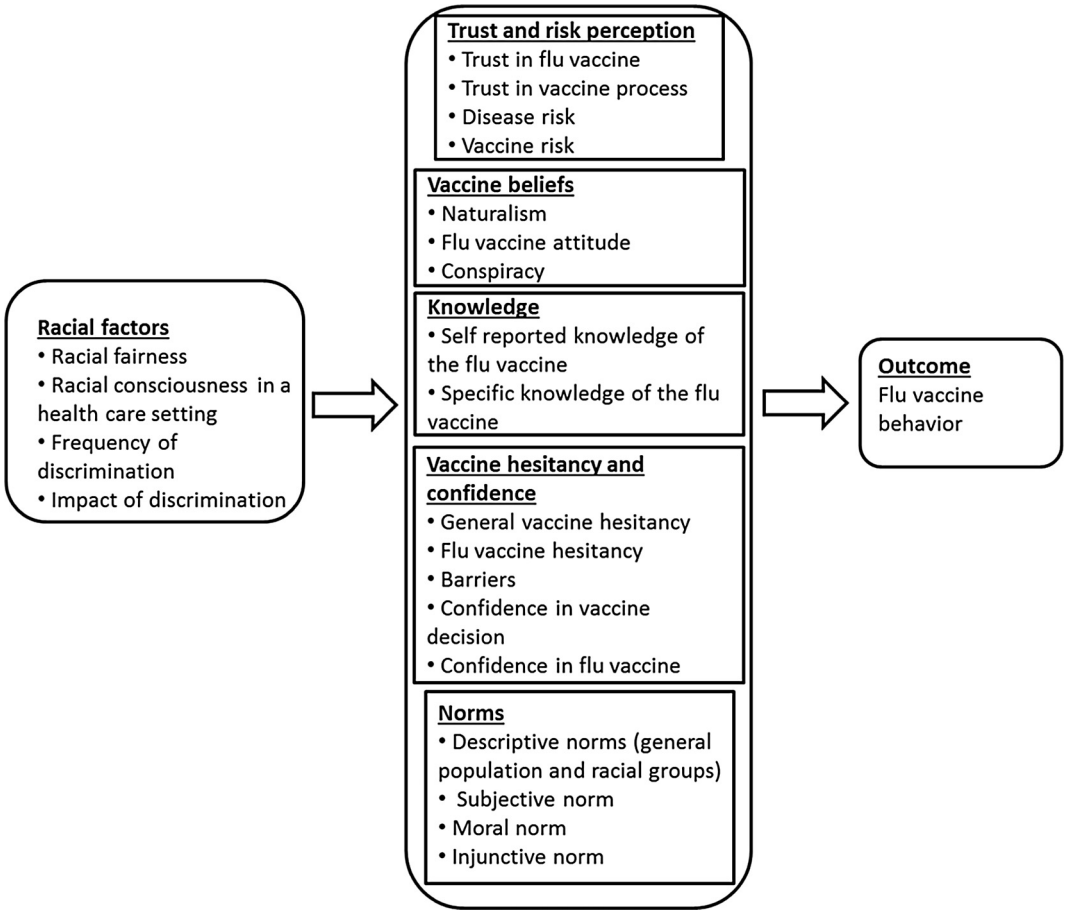

Fig. 1. Exploratory model for understanding vaccine disparities.

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