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Editorial

EDITORIAL

Understanding the role of structural racism in sleep disparities: a call to action and methodological considerations

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Historically and currently marginalized populations disproportionately experience adversities that negatively impact sleep health [1, 2]. For instance, racially minoritized individuals have been shown to generally have shorter sleep duration, poorer sleep continuity, and more severe sleep-disordered breathing and insomnia symptoms, compared to non-Hispanic White individuals [2–4]. Despite the documentation of racial sleep disparities, research into the fundamental, unnatural causes is scant. Researchers increasingly recognize that structural racism and interpersonal discrimination based on race are fundamental contributors to worse health outcomes for racially minoritized groups [5]. Thus, eliminating sleep health disparities requires understanding and addressing structural racism—the fundamental determinant of sleep health disparities that involves macrolevel systems (e.g. racial residential segregation due to historical and contemporary redlining) that reinforce inequities across racial/ethnic groups by limiting opportunities and resources. In fact, a 2020 workshop at the National Institutes of Health on sleep health disparities has recommended that racism be investigated as a fundamental determinant [6]. In this commentary, we summarize the "Understanding the Role of Structural Racism and Discrimination in Sleep Disparities" panel discussion from the June 2022 annual SLEEP meeting. Content included the historical underpinning of sleep disparities, various forms of racism, research examples, and considerations for advancing sleep health disparities research by promoting research on the "upstream" fundamental determinants versus the "downstream" health consequences of structural inequities.

Given the importance of historical context in understanding structural and social determinants of health, this panel began with a focus on a fundamental question: How did such stark sleep disparities between African Americans and Euro-descended Americans come to be? As a point of origin, the history of sleep disturbances that were deliberately produced and elaborately justified under the system of race-based slavery in the Americas was discussed [7]. Across the 18th and 19th centuries, enslaved Africans were subjected to wretched sleeping conditions after being worked beyond the point of exhaustion. These measures were a form of social control, frequently akin to torture (i.e. exhaustion and sleep deprivation as countermeasures to rebellion and escape). However, these actions were justified post hoc with persistant racist ideologies that Africans had physiology and social customs that (1) differed from European whites, particularly in requiring less sleep and that (2) supposedly justified

inhumane conditions such as overcrowded and cramped sleeping quarters [7]. For instance, African customs of cross-generational co-sleeping or other communal sleeping arrangements contrasted with an emerging European emphasis on comfort, privacy, and hygiene among European White adults—all of which helped define a civilizational style that was supposedly superior to what were perceived as "savage" races who were subject to enslavement or colonial rule [8]. In short, European individuals used African sleep-related customs and supposed physiological differences to justify race-based enslavement, and the institution of slavery created dramatic sleep-related health disparities among the enslavers and the enslaved. We argue that today's sleep disparities are at least in part after effects of a centuries-long history that lives on in our bodies and in the socially constructed narratives that continue to justify and perpetuate inequities.

To counteract these historical factors, we underscore the need to directly investigate racism instead of race—a proxy for relative disadvantage and advantage—as a fundamental contributor to preventable sleep health disparities. While the extant literature describing racial disparities is suggestive, these data often fall short of generative insight: without understanding mechanisms driving these racial sleep health disparities, it is easy to conflate race as a risk factor as opposed to a risk marker, especially given the historical precedence. The increased risk of adverse health in racially minoritized groups is not caused by their race; instead, race serves as a proxy for the various mechanisms by which these disparities arise. One such mechanism is race-based discrimination. There are multiple forms of race-based discrimination, including institutional discrimination based on race, personally mediated (or interpersonal) discrimination, and internalized discrimination based on race. Institutional discrimination based on race comprises structural barriers imposed on an individual or group interacting with a particular institution—e.g. an individual being denied a business loan from a banking institution because of their race [9]. Personally mediated discrimination based on race involves differential behavior (e.g. macro- or microaggressions) toward individuals based on their race whether intentional of unintentional. Internalized racism is the acceptance of negative messages by members of the stigmatized group, which occurs when the person believes and behaves in accordance with the negative stereotypes, eroding the sense of value held for the individual and group more broadly. One manifestation of internalized racism involves colorism resulting in, for instance, only wanting to partner with people with a preferential lighter skin tone. These various forms of racism (or race-based discrimination) can directly or indirectly affect sleep and contribute to sleep disparities [10]. Indeed, evidence presented during the panel indicated that race-based discrimination explains the greater severity of insomnia symptoms in Black, Indigenous, and People of Color (BIPOC) individuals [11].

There is currently immense opportunity for impactful research around race-based discrimination in sleep health disparities. In terms of the "racial discrimination and sleep" literature, in an unpublished review exploring "discrimination including racism and sleep," we found 59 relevant studies (as of May 2022). Of the 59 studies, 43 assessed personally mediated (or interpersonal) discrimination, 11 measured institutional race-based discrimination, and no studies—to our knowledge—assessed internalized nor structural racism. Therefore, most research, to date, has conceptualized racism as mainly a psychological versus systems-level stressor, which limits intervention and mitigation strategies. An example provided in the panel was unpublished evidence that neighborhood disadvantage was a significant mediator that explained racial differences in insomnia severity.

In addition to the shift away from race to racism as a social determinant, we also argue for the need to shift our thinking about sleep health disparities toward structural racism. Historical and contemporary societal contexts illuminate that racism—and not race—is the risk factor for disease. Racism is defined as a system of structuring opportunity and assigning value based on the historical accumulation of social interpretations of one's racial phenotype [12]. This system favors "in-group" individuals and communities, disadvantages "out-group" individuals and communities, and saps the strength of the entire society in ways that lead to disparities in health. Structural racism can be defined as "the totality of ways in which societies foster racial discrimination through mutually reinforcing systems of housing, education, employment, earnings, benefits, credit, media, health care, and criminal justice [5]". A key sustaining feature of structural racism is diffusion of responsibility because it does not require active participation. Because structural racism can persist without overt racial discrimination, "in-group" individuals can hold egalitarian views of nondiscrimination while the system continues to disadvantage "out-group" communities. This allows the system to sustain racist practices, policies, and beliefs (often implicitly) about individuals in the historically racialized group [13].

Despite the importance of structural racism as a root cause of sleep disparities, there is a lack of published studies. During the panel, we highlighted data demonstrating that self-reported experiences of racism were associated with insomnia [14], and extreme racism-related events were associated with worse global sleep quality scores [15]. In discussing preliminary, unpublished results from a mixed methods study, quantitative data supported that racism was associated with shorter sleep duration, while qualitative data suggested inequities in the workplace and education lead to rumination and poor sleep health. While the prior study did not examine structural racism, the explored downstream effects are likely on the pathway connecting structural racism and sleep health, and should be further explored. Thus, explicitly examining critical components of structural racism associated with sleep health, including (but not limited to) racial residential segregation or inequities in education, employment, income, and home ownership [13], all of which shape the neighborhood environment, health care, education, and economic stability will provide a better understanding of the root causes of sleep health disparities.

For the continued advancement of sleep disparities research, we make the following nonexhaustive list of identified recommendations as strategies and best practices:

1. Measure racism and hypothesize the role of racism as opposed to race to avoid reinforcing concepts of racial essentialism—a belief in race as a genetic or biological construct. The exception is when the connection to or relevancy of ancestry is directly studied—as in genetic studies.
2. Distinguish the different forms of racism (structural, systematic; institutional; interpersonal; and cultural racism) that contribute to sleep health disparities.
3. The following are methodological considerations for research measuring structural racism [13, 16–18]:

   a. Use variables that capture multiple dimensions of structural racism.
   b. Collect and use qualitative and quantitative data (i.e. mixed methods) to capture complex phenomena and provide a voice for the lived experiences of racially minoritized groups.
   c. Incorporate community input when creating measures of structural racism.
   d. Use data sources that focus on the context believed to affect residents not the composition of the geographic unit as, for example, census data may not provide information relevant to what community considers important.
   e. Use culturally responsive assessments that are valid for the population of interest (e.g. survey items validated across groups; equity health impact assessment; cumulative risk models).
   f. Incorporate life-course pathways and historical context into models (e.g. repeated measures of structural racism).
   g. Intersect race with other variables to capture intersectionality (e.g. gender; socioeconomic status).
4. Enlist historians, sociologists, or other humanities/social science scholars (e.g. history, sociology, ethnic/cultural studies, anthropologist)—where appropriate—to investigate root causes and manifestations of structural racism, which can yield new avenues for population-based research.
5. Investigate pathways linking structural racism and sleep health, including racial discrimination.
6. Avoid "health equity tourism"—defined as "the practice of investigators—without prior experience or commitment to health equity research—parachuting into the field in response to timely and often temporary increases in public interest and resources," and its unintended consequences of marginalization [19]. Collaborate with health equity scholars from the affected disenfranchised communities, not only by name, but with meaningful positions (e.g. authorship).
7. State positionality as a researcher from a particular background and evaluate biases embedded in studies, toward other methodologies (e.g., indigenous), and in funding and publishing (i.e. researcher reflexivity).

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