Structural Racism and Inequities in Incidence, Course of Illness, and Treatment of Psychotic Disorders Among Black Americans

Supriya Misra, ScD, Onisha S. Etkins, PhD, Lawrence H. Yang, PhD, and David R. Williams, PhD

See also Shim, p. 538.

Psychotic disorders (e.g., schizophrenia, schizoaffective disorder) are a leading cause of morbidity and premature mortality and an overlooked health inequity in the United States. European data indicate inequities in incidence, severity, and treatment of psychotic disorders, particularly for Black communities, that appear to be primarily attributable to social adversities. The dominant US narrative is that any observed differences are primarily a result of clinician bias and misdiagnosis.

We propose that employing the framework of structural racism will prompt European and US research to converge and consider the multifaceted drivers of inequities in psychotic disorders among Black Americans. In particular, we describe how historical and contemporary practices of (1) racialized policing and incarceration, and (2) economic exploitation and disinvestment, which are already linked to other psychiatric disorders, likely contribute to risks and experiences of psychotic disorders among Black Americans.

This framework can inform new strategies to (1) document the role of racism in the incidence, severity, and treatment of psychotic disorders; and (2) dismantle how racism operates in the United States, including defunding the police, abolishing carceral systems, and redirecting funds to invest in neighborhoods, housing, and community-based crisis response and mental health care. (*Am J Public Health*. 2022;112(4):624–632. https://doi.org/10.2105/AJPH.2021.306631)

AJPH April 2022, Vol 112, No. 4

Psychotic disorders are leading causes of morbidity and premature mortality and an overlooked health inequity in the United States.[1,2] Psychosis refers to disconnection from shared reality via hallucinations and delusions; delusions are fixed false beliefs and are maintained even when evidence against them is presented; and hallucinations are auditory, visual, or tactile perceptions occurring without the corresponding stimulus.[3] Psychotic disorders (e.g., schizophrenia, schizoaffective disorder) are a heterogenous syndrome that includes psychosis and affects behaviors, cognitions, and emotions. Although rarer than other psychiatric diagnoses, psychotic disorders are often more severe and debilitating.[1] European data indicate persistent inequities in incidence,[4] severity,[5] and treatment,[6] particularly for Black communities, with accumulating evidence that, in addition to potential misdiagnosis, these inequities are attributable to more prevalent and cumulative experiences of social adversities such as discrimination and trauma.[7,8]

US surveillance data suggest lower rates of psychiatric disorders among non-White racialized groups but typically exclude psychotic disorders. The 3 large-scale psychiatric epidemiological studies (Epidemiologic Catchment Area Survey of Mental Disorders,[9] National Comorbidity Survey,[10] and National Comorbidity Survey-Replication[11]) suggest that there are higher rates of psychotic disorders among Black communities, but challenges remain in accurately assessing psychotic disorders in these large epidemiologic studies, in which the interviewers are not clinicians.[11] A recent meta-analysis found that Black

Americans have 2.4 times greater odds of schizophrenia than do White Americans.[12] Earlier US research investigated whether social factors explain racial differences in psychotic disorders,[13] but the dominant narrative today is that observed racial differences are primarily attributable to clinician bias and misdiagnosis,[6,12–14] despite evidence suggesting otherwise.[12,15]

HISTORICAL CONTEXT

The current emphasis on clinician bias and misdiagnosis is partly attributable to the unique legacy of slavery and institutionalization in the United States, wherein psychotic diagnoses and antipsychotic medications were used as tools of control over Black people. During slavery, Black people were thought to have lower rates of mental illness.[16] However, after emancipation, Black people were identified as having higher rates of psychotic disorders because of racist beliefs about the loss of behavioral control.[13] The diagnosis became further racialized during the civil rights movement, when prisons started classifying Black people, especially men protesting in the movement, as psychotic to justify transferring them to inpatient hospitals.[17]

Toward the end of the civil rights movement, the health care system started to acknowledge the role of clinician bias and misdiagnosis and sought to change it. This bias includes overdiagnosis (i.e., no disorder present) and misdiagnosis (i.e., a different diagnosis is more appropriate), which can lead to worse outcomes because of failures in delivering appropriate care, prescription of powerful medications with serious side effects, and associated stigma.[14] These shifts coincided with a national policy of deinstitutionalization intended to move individuals with mental illness out of long-term inpatient facilities and into community care. However, insufficient community infrastructure combined with ongoing structural disadvantage resulted in criminalization of mental illness along racial lines, with many individuals with mental illness moved directly from asylums to the streets or to jails and prisons.[17] Black individuals are disproportionately represented in unhoused and incarcerated populations, and the US criminal legal system is the largest provider of mental health care in the country.[18]

STRUCTURAL RACISM FRAMEWORK

We propose that the framework of structural racism will promote convergence of European[19] and US evidence, and we suggest future directions for research and action for Black Americans. Racism occurs at multiple levels,[20] and structural racism refers to how society and its systems cause avoidable and unfair inequities in access to power, resources, capacities, and opportunities for racialized groups perceived as inferior in the context of White supremacy (i.e., treated by society as non-White).[21,22] Racism affects health via several established pathways, including institutional domains such as employment, education, housing, and health care; adverse cognitive and emotional processes; allostatic load and pathophysiological processes; diminished healthy behaviors and increased unhealthy behaviors; and physical injury from racially motivated violence.[21,23]

For psychotic disorders, this cumulative stress can contribute to more proximal risk factors, such as epigenetic modifications, altered neurobiology, and perinatal complications[24]; furthermore, these experiences can have effects across the life course and across generations. Situating these experiences in larger structures highlights new avenues for identification and intervention. This could help identify which patterns are attributable to clinician bias and misdiagnosis and which reflect differences in incidence and severity.

We identified common domains of structural racism that affect mental health in the United States and sought to connect them to evidence of inequities in psychotic disorders in Europe to propose how structural racism might uniquely contribute to inequities in psychotic disorders among Black Americans. We propose that structural racism—as expressed through historical and contemporary practices of (1) racialized policing and incarceration, and (2) economic exploitation and disinvestment, which are already linked to increased risk of psychiatric disorders—likely also contributes to unique risks, experiences, and consequences of psychotic disorders among Black Americans. This builds on a recent review of existing US research on the social environment and psychosis[24] by focusing on unique structural harms endured by Black Americans to indicate new strategies to (1) document the role of racism in the incidence, severity, and treatment of psychotic disorders; and (2) dismantle how racism operates in the United States, including defunding the police, abolishing carceral systems, and redirecting funds to invest in neighborhoods, housing, and community-based crisis response and mental health care.

RACIALIZED POLICING AND INCARCERATION

Racialized policing and police brutality are not new to the United States. From 18th-century slave patrol vigilantes to 21st-century police killings captured on cell phones, the disproportionate abuse and murder of Black people by police is ingrained in the racist history of the United States.[25,26] Racialized policing did not begin with the creation of the modern-day police force, but rather is a predecessor of a systemic infrastructure born of White supremacy; thus, assessing its health impacts requires the lens of structural racism.[25,27]

A systematic review of studies on police violence and mental health among Black Americans published between 1994 and 2019 found only 11 relevant studies.[25] Although research remains relatively scant, the literature indicates that experiencing negative police interactions (e.g., being asked for identification, being frisked or searched, experiencing physical force) are associated with poor mental health among Black people, including increased risk for posttraumatic stress disorder (PTSD), anxiety, suicidal ideation, and other psychiatric disorders.[25,28] Witnessing police violence can also result in poor mental health among Black people.[21] Although no studies to date have assessed the impact of experiencing or witnessing negative police interactions on psychotic disorders, police violence is associated with subthreshold psychotic experiences (i.e., psychosis symptoms that do not meet full diagnostic criteria).[29,30] For example, a study found that "paranoid beliefs" (i.e., distrust and fear of anticipated harm) were associated with expecting negative police interactions in the future. However, after adjusting for past negative police interactions, the association was no longer significant. This suggests that what is classified as paranoid beliefs could be shaped by realistic expectations of negative interactions based on past experiences.[31]

As a consequence of racialized policing, Black Americans are more likely to experience negative interactions with the criminal legal system. Racial bias occurs at every stage of the criminal legal system, from arrest and sentencing to incarceration and reentry.[32] The racialized criminalization of people with mental illness warrants closer examination, especially as more individuals with severe mental illness reside in jails and prisons than in psychiatric facilities.[18] In addition to the disproportionate number of individuals with preexisting mental illnesses that come into contact with the criminal legal system, interactions with the criminal legal system can exacerbate preexisting conditions and increase risk of developing mental illness symptoms and diagnoses,[33] including psychotic disorders.[34] The psychological impacts extend to nonincarcerated individuals who live in neighborhoods with high rates of incarceration.[35] Once in the system, harsher treatment (e.g., more frequent solitary confinement) also worsens mental health and increases likelihood of psychotic symptoms.[36] Hence, individuals in the criminal legal system have higher rates of mental illnesses before entry, and the system also increases risk of or exacerbates mental illnesses following entry.

Black people with psychotic disorders experience more police contact and greater likelihood of involuntary admission into inpatient psychiatric care than do White people.[37,38] In addition to being traumatic, frightening, and stigmatizing, involuntary patient admissions are associated with a cascade of negative outcomes, including further coercion in inpatient care, more involuntary readmissions, more frequent and longer hospitalizations, disengagement and avoidance of services, and dissatisfaction with services.[38] Together, these findings call for a closer look at how structural racism—as manifested by racialized policing, criminal legal system contact, incarceration, and coercive pathways into care—contributes to the experiences of psychotic disorders among Black Americans.

ECONOMIC EXPLOITATION AND DISINVESTMENT

Structural racism has shaped neighborhood conditions, leading to the unequal patterning of opportunities for socioeconomic attainment for Black Americans. Racial residential segregation, a form of structural racism intended to physically separate racial groups by directly or indirectly enforcing residence,[39] has resulted in disinvestment and the serial displacement of Black Americans from desirable neighborhoods and housing. Racial residential segregation has been enforced by legislation, housing policies, and economic institutions, even after the Civil Rights Act of 1968 made discrimination in renting and housing sales illegal.[39] Furthermore, Black Americans are more likely to experience displacement from and discriminatory exclusion in well-resourced neighborhoods and "entrapment" in neighborhoods with less capital (economic, social, and human) owing in part to this racialized structuring of housing and property markets.[40]

The legacy of racial residential segregation is restricted economic mobility and generational wealth for non-White racialized groups in the United States.[41] This helps explain why, at every level of education, Black people have lower income levels than do White people.[41] In fact, a national study showed that removing residential segregation would eliminate racial disparities in income, education, and unemployment.[42] The associations between low socioeconomic status and poor mental health, including psychotic disorders,[43] are well documented; however, US data show that socioeconomic status only partially mediates the association between race and psychotic disorders.[15] The consequences of racial residential segregation are more nuanced than individual socioeconomic disadvantage; evidence suggests that the mental health impacts may further differ by neighborhood poverty levels, whereby segregation is positively associated with distress among Black Americans in high-poverty neighborhoods but not low-poverty ones.[44]

Racial residential segregation has created neighborhoods with fewer resources, more harmful environmental exposures, and worse access to and quality of health care, all of which affect mental health.[21,39] This neighborhood deprivation is associated with risk of psychotic disorders.[45] Studies primarily from Northern Europe have found that living in urban areas, particularly during childhood, is associated with increased risk of psychotic disorders. However, these effects are heterogenous elsewhere and appear to depend on specific aspects of city living, such as economic stresses,[46] social connections (e.g., lower social cohesion),[47] and environmental exposures (e.g., air pollution).[48] Although recent US data on urbanicity and psychotic disorders are not available, 1 study found that an urban upbringing was associated with lower risk of psychotic symptoms for Black Americans,[49] which differs from European findings. More studies are needed to understand what "urbanicity" encompasses and its influence on psychotic disorders among Black Americans.

Racial residential segregation also means that Black individuals often live in communities with similar racial compositions. It has been posited that living in neighborhoods with greater "ethnic density" (i.e., high percentages of residents from the same racialized group) can be both positive (e.g., social connection) and detrimental (e.g., low-quality housing) for mental health.[50] One US study found a protective association between Black ethnic density and depressive symptoms, but the direction changed when ethnic density reached 85%, suggesting a threshold effect.[51] Data from Europe suggest protective but heterogenous effects of ethnic density on psychotic disorders,[52,53] but studies are limited in the United States. One study on psychotic symptoms suggested that the protective effect of ethnic density emerged only after accounting for neighborhood deprivation.[54] These relationships are clearly nuanced[55] and warrant further study for Black Americans.

Racial residential segregation and its economic consequences also contribute to housing instability because of decades of racialized policies combined with ongoing racialized practices, such as predatory mortgage lending, foreclosures, and evictions that disproportionately affect Black people.[39] In a retrospective study of low-income renters in Milwaukee, Wisconsin, forced removal from rental properties was associated with job loss, demonstrating a link between housing insecurity and employment.[56] A study of 2245 counties across all 50 states found the association between foreclosures and mental health to be stronger in counties with a higher proportion of Black residents than counties with the lowest proportion.[57] One study found that displaced residents experienced more mental health emergency department visits than did those who remained in a gentrifying neighborhood.[58] Another study found that those who were housing insecure were twice as likely to experience 14 days or more with poor mental health than were those who were housing secure.[59] Regarding psychotic disorders, 1 study found that severe neighborhood disruption (e.g., feeling unwelcome or pushed out) was associated with an increased risk of subthreshold psychotic experiences[60]; however, no US studies have assessed how housing insecurity affects the onset or severity of psychotic disorders.

At the most extreme, housing instability and serial displacement result in extended periods of living without housing, commonly known as "homelessness." Black people are 13.4% of the US population but 40% of unhoused populations[61]; they have 1.4 greater odds of being unhoused in their lifetime than do White people.[62] Racial inequities in being unhoused are linked to lower income, greater incarceration histories, and greater risk of traumatic events.[62] Qualitative data confirm the role of structural racism—including in criminal legal system discrimination, employment discrimination, exposure to violence, premature death, and limited family wealth[63]—in both precipitating and perpetuating being unhoused. Following deinstitutionalization in the 1980s, homelessness greatly increased, transforming

the image of a person without housing to coincide with someone with severe mental illness.[64] Although psychotic disorders are relatively rare compared with other psychiatric diagnoses, they are one of the most common diagnoses among unhoused populations. A recent meta-analysis estimated a pooled prevalence of 21% for psychotic disorders among unhoused populations globally, more than 50 times the prevalence in general populations.[65]

To address the role of structural racism in the distribution and course of psychotic disorders among Black Americans, we must consider the historic and contemporary experiences of economic exploitation and disinvestment that, through residential segregation, contribute to neighborhood deprivation, housing instability, serial displacement, and homelessness.

FUTURE DIRECTIONS

We urgently need to broaden our conceptualization and assessment of the multiple domains and contexts in which structural racism operates and to empirically assess its impact on psychotic disorders in the United States. Despite robust evidence on racial inequities in psychotic disorders, much of this research occurs in homogenous settings with relatively recent migration patterns that do not reflect the historical context and ongoing consequences of slavery and structural racism in the United States. Given the historical harms caused to Black Americans under the guise of psychiatric care, the dominant focus on biomedical explanations and uniform incidence appears egalitarian. However, calls are increasing for using a structural racism framework to understand the risk of psychotic disorders.[19,24] It is critical to disentangle whether higher rates are primarily attributable to clinician bias and misdiagnosis, as commonly believed, or are also attributable to racialized policing and incarceration and economic exploitation of and disinvestment in Black Americans. These latter factors have been linked with other psychiatric disorders and likely share similar pathways via cumulative stress, which leads to alterations in psychological, neurobiological, and physiological systems. Given the systemic nature of racism and how multiple components operate synergistically, it is worth (1) giving more attention to how we document the contribution of racism to psychotic disorders, and (2) dismantling how racism operates via multilevel and multisystem interventions.

Document Racism's Role in Psychotic Disorders

We recommend a reprioritization of research on psychotic disorders from primarily a biomedical lens to understand individual risk and clinical treatment to a structural racism lens to systematically monitor psychotic disorders, assess the role of socioenvironmental factors alongside more proximal mechanisms, and prioritize inclusion of Black people at every point in the mental health care system and related structures. Importantly, this means denouncing biological race and explanations of genetic difference in the absence of any evidence as well as being explicit about naming racism when discussing racial differences.[66] Researchers will need to invest time, effort, and resources to build trust with diverse Black communities, particularly those affected by policing, incarceration, residential segregation, and housing instability. This can be strengthened by collaborating with Black communities, including those with lived experience of mental illness,[67] at all levels of leadership to articulate research needs and priorities and guide the feasibility and sustainability of such efforts. Prioritizing leadership from within affected communities can help equalize the disproportionate power of structural racism while also considering the additional burdens being placed on those for whom the pervasive harms of racism are already obvious.

Epidemiological studies are limited, with no consistent surveillance of psychotic disorders in the United States, although the upcoming Mental and Substance Use Disorders Prevalence Study is intended to address this gap and will include incarcerated and unhoused populations.[68] To date, promising US studies have primarily used general population samples with subthreshold psychotic experiences and relied on (1) existing data sets to assess for racial inequities,[69] (2) added measures to studies like the Survey of Police–Public Encounters,[70] and (3) self-report data among convenience samples (e.g., college students) on factors such as racial discrimination,[71] traumatic experiences,[72] and ethnic density.[54]

Future studies can build on these approaches to operationalize dimensions of structural racism, such as incarceration (e.g., relative proportion of Black people to White people incarcerated) and residential segregation (e.g., redlining index of Black–White disparity in mortgage loan denial).[73] In addition to expanding measures, studies need to include people diagnosed with psychotic disorders; population-based case–control designs have been used with some success in Europe (e.g., the EUropean Network of National Schizophrenia Networks Studying

Gene-Environment Interactions[74]). Finally, we note that psychotic disorders and PTSD can co-occur, and complex PTSD can include psychotic symptoms.[75] It is possible that this is more common among Black Americans given shared pathways, but we are unaware of any studies examining racial inequities in this co-occurrence.

More studies are needed to address inequities in the course and severity of psychotic disorders, including the differential efficacy of potential interventions. Growing clinical and community-based efforts show that early detection and treatment are beneficial across the life course, but it is unclear whether these benefits are equitable. For example, nascent efforts have attempted to identify individuals at "ultrahigh risk" for psychosis (i.e., before developing a psychotic disorder). The first (to our knowledge) study to examine racial differences at this early stage, in London, United Kingdom, found that Black individuals were overrepresented as ultrahigh risk but that after early intervention services there were no racial differences in those who transitioned to psychotic disorders after 2 years.[76]

This suggests that even with increased risk, there are targeted opportunities to intervene and reduce inequities in incidence. However, the current consensus is that early intervention programs have significant inequities in program engagement and outcomes.[77] For example, the National Institute of Mental Health–funded RAISE (Recovery After an Initial Schizophrenia Episode) project, which tested a coordinated specialty care model after first-episode psychosis, identified racial disparities not only at baseline[78] but also in subsequent treatment outcomes.[79] Similar patterns were observed in New York City's early intervention program OnTrackNY, including for vocational outcomes of education and employment.[80]

For practical reasons, many studies occur at the individual level, but we recommend that researchers use theory-driven approaches that contextualize the individual within larger societal, structural, and systemic factors. Without explicitly naming the power structures that drive inequities, individual-level research on psychotic disorders is at risk for falling into the realm of victim blaming. The underlying biology of psychosis is undoubtedly important, but rather than a biomedical lens that reduces all differences solely to genetics and neurobiology, it is important to highlight how biology is shaped by individuals interacting in multilayered environments that are undergirded by systems of power and oppression.[81]

Additionally, Black feminist scholars and activists have used intersectionality theory to examine how experiences differ at the unique intersection of multiple systems of power that are simultaneously experienced; their results have recently been integrated into public health research.[27] One example is the intersection of racism and sexism; although sex differences in psychotic disorders are well established,[82,83] research on the experiences of Black women with psychotic disorders is scarce compared with research on Black men or White women. In particular, the gendered racialization of psychotic disorders in the United States shifted conceptions of the typical patient from White women to Black men,[17] overlooking the experiences of Black women.[84]

When analyzing the role of structural racism in psychotic disorders in the United States, there are many other intersecting systems of power that also need to be considered simultaneously (e.g., cissexism, heterosexism, ableism, capitalism). Qualitative and mixed methods can be powerful approaches to elicit information about experiences at the intersections of systems of power.[85] Using these strategies to build the evidence base will inform allocation of resources to public health strategies that go beyond biomedical interventions and target structural change.

Dismantle How Racism Operates

Although documenting harms is necessary, multilevel and multisystem interventions that lead to transformative change are required to rectify the long-term harms of structural racism. For the criminal legal system, this means defunding the police and abolishing carceral systems, redirecting funds toward housing and community-based mental health services, and reclassifying what often falls under the purview of the legal system to other health and social services.[86,87] This will require sustained efforts to create, fund, and use community-based mental health first responder programs and alternative models for longer-term mental health care. For example, the CAHOOTS (Crisis Assistance Helping Out on the Streets) program in Eugene, Oregon, redirects mental health emergency calls to unarmed health professionals and finds that they rarely need police backup, thus decreasing police interactions and potential harm for individuals with mental illness.[86] As we work toward

abolition, pre- and postarrest diversion programs to receive mental health services rather than criminal charges and transition programs for people who were formerly incarcerated may mitigate some harms. Assertive community treatment is 1 strategy whereby formerly incarcerated individuals receive team-based mental health care that includes support for housing, employment, and benefits.[88]

Investing in neighborhoods that experience the greatest structural disadvantage requires social and economic policies that reallocate resources and build on the strengths of existing community institutions (e.g., schools, religious institutions, businesses). Additionally, policies regulating rent and evictions and supporting affordable, stable, and quality housing can play a large role in determining housing security and stable mental health.[89] Some health care systems have offered housing vouchers or invested in developing affordable housing to address this issue. One randomized study found that unhoused adults who were offered long-term housing and case management had fewer emergency department visits and hospitalizations.[89] Unlike typical programs that segregate supportive housing and have mandated requirements, the Housing First framework posits that providing housing for individuals with severe mental illness to live integrated in the community with agency and support leads to greater improvement in mental health.[90] Similarly, programs that support education, vocational training, and employment also improve functional outcomes but need more study in racialized groups. These interventions show how alternative, collaborative forms of health care can address inequities by targeting the mechanisms of structural racism.

CONCLUSIONS

Psychotic disorders are an understudied health inequity in the United States. Despite higher prevalence among Black Americans, these differences are often dismissed as solely attributable to clinical bias and misdiagnosis. Although this certainly occurs, the evidence reviewed shows that social adversities are also driving forces behind racial inequities in psychotic disorders. We suggest that structural racism—particularly (1) racialized policing and incarceration, and (2) economic exploitation and disinvestment—also contributes to inequities in incidence, severity, and treatment of psychotic disorders. Although we focus on Black Americans, these findings can be extended to other racialized populations harmed by these structures, including Black immigrants, other immigrant and refugee populations, other communities of color, and other populations that experience structural marginalization and disadvantage. This framework can be used to identify new strategies to document the role of racism in psychotic disorders and to dismantle how racism operates. This includes initiatives such as defunding the police, abolishing carceral systems, and redirecting funds to invest in neighborhoods, housing, and community-based crisis response and mental health care. AJPH

ABOUT THE AUTHORS

Supriya Misra is with the Department of Public Health, San Francisco State University, San Francisco, CA. Onisha S. Etkins and David R. Williams are with the Department of Social and Behavioral Sciences, Harvard T. H. Chan School of Public Health, Boston, MA. Lawrence H. Yang is with the Department of Social and Behavioral Sciences, New York University School of Global Public Health, New York, NY.

CORRESPONDENCE

Correspondence should be sent to Supriya Misra, Department of Public Health, San Francisco State University, 1600 Holloway Ave, San Francisco, CA 94132 (e-mail: supriya@sfsu.edu). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

PUBLICATION INFORMATION

Full Citation: Misra S, Etkins OS, Yang LH, Williams DR. Structural racism and inequities in incidence, course of illness, and treatment of psychotic disorders among Black Americans. *Am J Public Health*. 2022;112(4):624–632.

Acceptance Date: November 16, 2021.

DOI: https://doi.org/10.2105/AJPH.2021.306631

CONTRIBUTORS

S. Misra conceptualized this project. S. Misra and O. S. Etkins wrote the first draft of the article. L. H. Yang and D. R. Williams provided critical review and insight. All authors helped to conceptualize ideas and write and revise the article.

ACKNOWLEDGMENTS

Preparation of this article was supported, in part, by the W. K. Kellogg Foundation (grant P3039294-2021).

The authors would like to thank Paroma Mitra, MD, MPH, for reviewing an earlier draft of this article.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

HUMAN PARTICIPANT PROTECTION

This project did not involve human participants and does not meet the definition of research required for institutional review board review.

REFERENCES

1. Global Burden of Disease Study 2015 Disease and Injury Incidence and Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet.* 2016;388(10053):1545–1602. https://doi.org/10.1016/S0140-6736(16)31678-6 [Erratum in Department of Error. *Lancet.* 2017;389(10064):e1. doi: 10.1016/S0140-6736(16)32606-X].
2. Hjorthøj C, Stürup AE, McGrath JJ, Nordentoft M. Years of potential life lost and life expectancy in schizophrenia: a systematic review and meta-analysis. *Lancet Psychiatry.* 2017;4(4):295–301. https://doi.org/10.1016/S2215-0366(17)30078-0 [Erratum in Corrections. *Lancet Psychiatry*. 2017;4(9):e19. doi: 10.1016/S2215-0366(17)30326-7].
3. Arciniegas DB. Psychosis. *Continuum (NY).* 2015;21(3):715-736. https://doi.org/10.1212/01.CON.0000466662.89908.e7

4. Jongsma HE, Turner C, Kirkbride JB, Jones PB. International incidence of psychotic disorders, 2002–17: a systematic review and meta-analysis. *Lancet Public Health.* 2019;4(5):e229–e244. https://doi.org/10.1016/S2468-2667(19)30056-8
5. Schwartz EK, Docherty NM, Cohen AS. Exploring the racial diagnostic bias of schizophrenia using behavioral and clinical-based measures. *J Abnorm Psychol.* 2019;128(3):263–271. https://doi.org/10.1037/abn0000409
6. Schwartz RC, Blankenship DM. Racial disparities in psychotic disorder diagnosis: a review of empirical literature. *World J Psychiatry.* 2014;4(4):133–140. https://doi.org/10.5498/wjp.v4.i4.133
7. Morgan C, Knowles G, Hutchinson G. Migration, ethnicity and psychoses: evidence, models and future directions. *World Psychiatry.* 2019;18(3):247–258. https://doi.org/10.1002/wps.20655
8. Dykxhoorn J, Kirkbride JB. Psychoses sans Frontieres: Towards an interdisciplinary understanding of psychosis risk amongst migrants and their descendants. *Epidemiol Psychiatr Sci.* 2019;28(2):146–152. https://doi.org/10.1017/S2045796018000501
9. Keith SJ, Regier DA, Rae DS. Schizophrenic disorders. In: Regier DA, Robins LN, eds. *Psychiatric Disorders in America: The Epidemiologic Catchment Area Study.* New York, NY: Free Press; 1991:33–52.
10. Kendler KS, Gallagher TJ, Abelson JM, Kessler RC. Lifetime prevalence, demographic risk factors, and diagnostic validity of nonaffective psychosis as assessed in a US community sample: the National Comorbidity Study. *Arch Gen Psychiatry.* 1996;53(11):1022–1031. https://doi.org/10.1001/archpsyc.1996.01830110060007
11. Kessler RC, Birnbaum H, Demler O, et al. The prevalence and correlates of nonaffective psychosis in the National Comorbidity Survey Replication (NCS-R). *Biol Psychiatry.* 2005;58(8):668–676. https://doi.org/10.1016/j.biopsych.2005.04.034
12. Olbert CM, Nagendra A, Buck B. Meta-analysis of Black vs. White racial disparity in schizophrenia diagnosis in the United States: do structured assessments attenuate racial disparities? *J Abnorm Psychol.* 2018;127(1):104–115. https://doi.org/10.1037/abn0000309
13. Jarvis GE. The social causes of psychosis in North American psychiatry: a review of a disappearing literature. *Can J Psychiatry.* 2007;52(5):287–294. https://doi.org/10.1177/070674370705200503
14. Jarvis GE. Changing psychiatric perception of African Americans with psychosis. *Eur J Am Cult.* 2008;27(3):227–252. https://doi.org/10.1386/ejac.27.3.227_1
15. Bresnahan M, Begg MD, Brown A, et al. Race and risk of schizophrenia in a US birth cohort: another example of health disparity? *Int J Epidemiol.* 2007;36(4):751–758. https://doi.org/10.1093/ije/dym041
16. Green EM. Psychoses among Negroes—a comparative study. *J Nerv Ment Dis.* 1914;41(11):697–708.
17. Metzl JM. *The Protest Psychosis: How Schizophrenia Became a Black Disease.* Boston, MA: Beacon Press; 2010.
18. Ford E. First-episode psychosis in the criminal justice system: identifying a critical intercept for early intervention. *Harv Rev Psychiatry.* 2015;23(3):167–175. https://doi.org/10.1097/HRP.0000000000000066
19. Nazroo JY, Bhui KS, Rhodes J. Where next for understanding race/ethnic inequalities in severe mental illness? Structural, interpersonal and institutional racism. *Sociol Health Illn.* 2020;42(2):262–276. https://doi.org/10.1111/1467-9566.13001
20. Jones CP. Levels of racism: a theoretic framework and a gardener's tale. *Am J Public Health.* 2000;90(8):1212–1215. https://doi.org/10.2105/AJPH.90.8.1212
21. Williams DR, Lawrence JA, Davis BA. Racism and health: evidence and needed research. *Annu Rev Public Health.* 2019;40:105–125. https://doi.org/10.1146/annurev-publhealth-040218-043750
22. Nasir NS. *Racialized Identities: Race and Achievement Among African American Youth.* Stanford, CA: Stanford University Press; 2012.
23. Paradies Y, Ben J, Denson N, et al. Racism as a determinant of health: a systematic review and meta-analysis. *PLoS One.* 2015;10(9):e0138511. https://doi.org/10.1371/journal.pone.0138511
24. Anglin DM, Ereshefsky S, Klaunig MJ, et al. From womb to neighborhood: a racial analysis of social determinants of psychosis in the United States. *Am J Psychiatry.* 2021;178(7):599–610. https://doi.org/10.1176/appi.ajp.2020.20071091
25. McLeod MN, Heller D, Manze MG, Echeverria SE. Police interactions and the mental health of Black Americans: a systematic review. *J Racial Ethn Health Disparities.* 2020;7(1):10–27. https://doi.org/10.1007/s40615-019-00629-1
26. Davis AJ. *Policing the Black Man: Arrest, Prosecution, and Imprisonment.* New York, NY: Pantheon Books; 2017.
27. Ford CL. Graham, police violence, and health through a public health lens. *Boston Univ Law Rev.* 2020;100(3):1093–1109.
28. Oh H, DeVylder J, Hunt G. Effect of police training and accountability on the mental health of African American adults. *Am J Public Health.* 2017;107(10):1588–1590. https://doi.org/10.2105/AJPH.2017.304012
29. DeVylder JE, Oh HY, Nam B, Sharpe TL, Lehmann M, Link BG. Prevalence, demographic variation and psychological correlates of exposure to police victimisation in four US cities. *Epidemiol Psychiatr Sci.* 2017;26(5):466–477. https://doi.org/10.1017/S2045796016000810
30. DeVylder JE, Jun HJ, Fedina L, et al. Association of exposure to police violence with prevalence of mental health symptoms among urban residents in the United States. *JAMA Netw Open.* 2018;1(7):e184945. https://doi.org/10.1001/jamanetworkopen.2018.4945
31. Jun H-J, Nam B, Fedina L, et al. Paranoid beliefs and realistic expectations of victimization: data from the survey of police–public encounters. *Schizophr Res.* 2018;199:326–332. https://doi.org/10.1016/j.schres.2018.02.046
32. Davis AJ. Benign neglect of racism in the criminal justice system. *Mich Law Rev.* 1996;94(6):1660–1686. https://doi.org/10.2307/1289965
33. Piper A, Berle D. The association between trauma experienced during incarceration and PTSD outcomes: a systematic review and meta-analysis. *J Forensic Psychiatry Psychol.* 2019;30(5):854–875. https://doi.org/10.1080/14789949.2019.1639788
34. Denzel AD, van Esch AYM, Harte JM, Scherder EJA. Ethnic variations in psychotic disorders in the criminal justice system: a systematic review. *Aggress Violent Behav.* 2016;29:20–29. https://doi.org/10.1016/j.avb.2016.05.006
35. Hatzenbuehler ML, Keyes K, Hamilton A, Uddin M, Galea S. The collateral damage of mass incarceration: risk of psychiatric morbidity among nonincarcerated residents of high-incarceration neighborhoods. *Am J Public Health.* 2015;105(1):138–143. https://doi.org/10.2105/AJPH.2014.302184
36. Ryan AT, DeVylder J. Previously incarcerated individuals with psychotic symptoms are more likely to report a history of solitary confinement. *Psychiatry Res.* 2020;290:113064. https://doi.org/10.1016/j.psychres.2020.113064
37. Merritt-Davis OB, Keshavan MS. Pathways to care for African Americans with early psychosis. *Psychiatr Serv.* 2006;57(7):1043–1044. https://doi.org/10.1176/ps.2006.57.7.1043
38. Halvorsrud K, Nazroo J, Otis M, Hajdukova EB, Bhui K. Ethnic inequalities and pathways to care in psychosis in England: a systematic review and meta-analysis. *BMC Med.* 2018;16(1):223. https://doi.org/10.1186/s12916-018-1201-9
39. Williams DR, Collins C. Racial residential segregation: a fundamental cause of racial disparities in health. *Public Health Rep.* 2001;116(5):404–416. https://doi.org/10.1016/S0033-3549(04)50068-7
40. Saegert S, Fields D, Libman K. Mortgage foreclosure and health disparities: serial displacement as asset extraction in African American populations. *J Urban Health.* 2011;88(3):390–402. https://doi.org/10.1007/s11524-011-9584-3
41. Williams DR. Race, socioeconomic status, and health. The added effects of racism and discrimination. *Ann N Y Acad Sci.* 1999;896:173–188. https://doi.org/10.1111/j.1749-6632.1999.tb08114.x
42. Cutler DM, Glaeser EL. Are ghettos good or bad? *Q J Econ.* 1997;112(3):826–872. https://doi.org/10.1162/003355397555361
43. Kwok W. Is there evidence that social class at birth increases risk of psychosis? A systematic review. *Int J Soc Psychiatry.* 2014;60(8):801–808. https://doi.org/10.1177/0020764014524737
44. Do DP, Locklar LRB, Florsheim P. Triple jeopardy: the joint impact of racial segregation and neighborhood poverty on the mental health of Black Americans. *Soc Psychiatry Psychiatr Epidemiol.* 2019;54(5):533–541. https://doi.org/10.1007/s00127-019-01654-5
45. O'Donoghue B, Roche E, Lane A. Neighbourhood level social deprivation and the risk of psychotic disorders: a systematic review. *Soc Psychiatry Psychiatr Epidemiol.* 2016;51(7):941–950. https://doi.org/10.1007/s00127-016-1233-4
46. Fett A-KJ, Lemmers-Jansen ILJ, Krabbendam L. Psychosis and urbanicity: a review of the recent literature from epidemiology to neurourbanism. *Curr Opin Psychiatry.* 2019;32(3):232–241. https://doi.org/10.1097/YCO.0000000000000486
47. Bhavsar V, Boydell J, Murray R, Power P. Identifying aspects of neighbourhood deprivation associated with increased incidence of schizophrenia. *Schizophr Res.* 2014;156(1):115–121. https://doi.org/10.1016/j.schres.2014.03.014
48. Attademo L, Bernardini F, Garinella R, Compton MT. Environmental pollution and risk of psychotic disorders: a review of the science to date. *Schizophr Res.* 2017;181:55–59. https://doi.org/10.1016/j.schres.2016.10.003
49. Oh HY, Koyanagi A, DeVylder JE, Link B. Urban upbringing and psychotic experiences in the United States: a racial and geographic

comparison. *Psychiatry Res.* 2020;293:113372. https://doi.org/10.1016/j.psychres.2020.113372

50. Bécares L, Dewey ME, Das-Munshi J. Ethnic density effects for adult mental health: systematic review and meta-analysis of international studies. *Psychol Med.* 2018;48(12):2054–2072. https://doi.org/10.1017/S0033291717003580
51. Bécares L, Nazroo J, Jackson J. Ethnic density and depressive symptoms among African Americans: threshold and differential effects across social and demographic subgroups. *Am J Public Health.* 2014;104(12):2334–2341. https://doi.org/10.2105/AJPH.2014.302047
52. Baker SJ, Jackson M, Jongsma H, Saville CWN. A comprehensive systematic review and multilevel meta-analysis of the ethnic density effect in psychosis. October 27, 2020. Available at: https://psyarxiv.com/jcxzw. Accessed January 24, 2022. https://doi.org/10.31234/osf.io/jcxzw
53. Bosqui TJ, Hoy K, Shannon C. A systematic review and meta-analysis of the ethnic density effect in psychotic disorders. *Soc Psychiatry Psychiatr Epidemiol.* 2014;49(4):519–529. https://doi.org/10.1007/s00127-013-0773-0
54. Anglin DM, Lui F, Schneider M, Ellman LM. Changes in perceived neighborhood ethnic density among racial and ethnic minorities over time and psychotic-like experiences. *Schizophr Res.* 2020;216:330–338. https://doi.org/10.1016/j.schres.2019.11.034
55. Anglin DM. Advancing the study of local ethnic density and psychosis. *Lancet Psychiatry.* 2020;7(4):293–294. https://doi.org/10.1016/S2215-0366(20)30101-2
56. Desmond M, Gershenson C. Housing and employment insecurity among the working poor. *Soc Probl.* 2016;63(1):46–67. https://doi.org/10.1093/socpro/spv025
57. Houle JN. Mental health in the foreclosure crisis. *Soc Sci Med.* 2014;118:1–8. https://doi.org/10.1016/j.socscimed.2014.07.054
58. Lim S, Chan PY, Walters S, Culp G, Huynh M, Gould LH. Impact of residential displacement on healthcare access and mental health among original residents of gentrifying neighborhoods in New York City. *PLoS One.* 2017;12(12):e0190139. https://doi.org/10.1371/journal.pone.0190139
59. Stahre M, VanEenwyk J, Siegel P, Njai R. Housing insecurity and the association with health outcomes and unhealthy behaviors, Washington State, 2011. *Prev Chronic Dis.* 2015;12:E109. https://doi.org/10.5888/pcd12.140511
60. Narita Z, Knowles K, Fedina L, et al. Neighborhood change and psychotic experiences in a general population sample. *Schizophr Res.* 2020;216:316–321. https://doi.org/10.1016/j.schres.2019.11.036
61. Henry M, Watt R, Mahathey A, Ouellette J, Sitler A. *The 2019 Annual Homeless Assessment Report (AHAR) to Congress.* 2020. Available at: https://www.huduser.gov/portal/sites/default/files/pdf/2019-AHAR-Part-1.pdf. Accessed January 18, 2022.
62. Rhee TG, Rosenheck RA. Why are Black adults over-represented among individuals who have experienced lifetime homelessness? Oaxaca-Blinder decomposition analysis of homelessness among US male adults. *J Epidemiol Community Health.* 2021;75(2):161–170. https://doi.org/10.1136/jech-2020-214305
63. Paul DW, Knight KR, Olsen P, Weeks J, Yen IH, Kushel MB. Racial discrimination in the life course of older adults experiencing homelessness: results from the HOPE HOME study. *J Soc Distress Homeless.* 2020;29(2):184–193. https://doi.org/10.1080/10530789.2019.1702248
64. Folsom D, Jeste DV. Schizophrenia in homeless persons: a systematic review of the literature. *Acta Psychiatr Scand.* 2002;105(6):404–413. https://doi.org/10.1034/j.1600-0447.2002.02209.x
65. Ayano G, Tesfaw G, Shumet S. The prevalence of schizophrenia and other psychotic disorders among homeless people: a systematic review and meta-analysis. *BMC Psychiatry.* 2019;19(1):370. https://doi.org/10.1186/s12888-019-2361-7
66. Boyd RW, Lindo EG, Weeks LD, McLemore MR. On racism: a new standard for publishing on racial health inequities. *Health Affairs Blog*. July 2, 2020. https://doi.org/10.1377/hblog20200630.939347. Available at: https://www.healthaffairs.org/do/10.1377/forefront.20200630.939347/full. Accessed January 18, 2022.
67. Jones N, Atterbury K, Byrne L, et al. Lived experience, research leadership, and the transformation of mental health services: building a researcher pipeline. *Psychiatr Serv.* 2021;72(5):591–593. https://doi.org/10.1176/appi.ps.202000468
68. Substance Abuse and Mental Health Services Administration. Mental and substance use disorders prevalence study. Notice of funding opportunity. Available at: https://www.samhsa.gov/grants/grant-announcements/fg-19-003. Accessed January 18, 2022.
69. DeVylder JE, Burnette D, Yang LH. Co-occurrence of psychotic experiences and common mental health conditions across four racially and ethnically diverse population samples. *Psychol Med.* 2014;44(16):3503–3513. https://doi.org/10.1017/S0033291714000944
70. DeVylder JE, Cogburn C, Oh HY, et al. Psychotic experiences in the context of police victimization: Data from the survey of police–public encounters. *Schizophr Bull.* 2017;43(5):993–1001. https://doi.org/10.1093/schbul/sbx038
71. Anglin DM, Lui F, Espinosa A, Tikhonov A, Ellman L. Ethnic identity, racial discrimination and attenuated psychotic symptoms in an urban population of emerging adults. *Early Interv Psychiatry.* 2018;12(3):380–390. https://doi.org/10.1111/eip.12314
72. Anglin DM, Polanco-Roman L, Lui F. Ethnic variation in whether dissociation mediates the relation between traumatic life events and attenuated positive psychotic symptoms. *J Trauma Dissociation.* 2015;16(1):68–85. https://doi.org/10.1080/15299732.2014.953283
73. Groos M, Wallace M, Hardeman R, Theall KP. Measuring inequity: a systematic review of methods used to quantify structural racism. *J Health Dispar Res Pract.* 2018;11(2):13.
74. Gayer-Anderson C, Jongsma HE, Di Forte M, et al. The EUropean Network of National Schizophrenia Networks Studying Gene–Environment Interactions (EU–GEI): incidence and first-episode case–control programme. *Soc Psychiatry Psychiatr Epidemiol.* 2020;55(5):645–657. https://doi.org/10.1007/s00127-020-01831-x
75. OConghaile A, DeLisi LE. Distinguishing schizophrenia from posttraumatic stress disorder with psychosis. *Curr Opin Psychiatry.* 2015;28(3):249–255. https://doi.org/10.1097/YCO.0000000000000158
76. Byrne M, Codjoe L, Morgan C, et al. The relationship between ethnicity and service access, treatment uptake and the incidence of psychosis among people at ultra high risk for psychosis. *Psychiatry Res.* 2019;272:618–627. https://doi.org/10.1016/j.psychres.2018.12.111
77. Jones N, Kamens S, Oluwoye O, et al. Structural disadvantage and culture, race, and ethnicity in early psychosis services: International Provider Survey. *Psychiatr Serv.* 2021;72(3):254–263. https://doi.org/10.1176/appi.ps.202000211
78. Nagendra A, Schooler NR, Kane JM, et al. Demographic, psychosocial, clinical, and neurocognitive baseline characteristics of Black Americans in the RAISE-ETP study. *Schizophr Res.* 2018;193:64–68. https://doi.org/10.1016/j.schres.2017.06.038
79. Oluwoye O, Stiles B, Monroe-DeVita M, et al. Racial–ethnic disparities in first-episode psychosis treatment outcomes from the RAISE-ETP study. *Psychiatr Serv.* 2018;69(11):1138–1145. https://doi.org/10.1176/appi.ps.201800067
80. Nossel I, Wall MM, Scodes J, et al. Results of a coordinated specialty care program for early psychosis and predictors of outcomes. *Psychiatr Serv.* 2018;69(8):863–870. https://doi.org/10.1176/appi.ps.201700436
81. Krieger N. Refiguring "race": epidemiology, racialized biology, and biological expressions of race relations. *Int J Health Serv.* 2000;30(1):211–216. https://doi.org/10.2190/672J-1PPF-K6QT-9N7U
82. Aleman A, Kahn RS, Selten J-P. Sex differences in the risk of schizophrenia: evidence from meta-analysis. *Arch Gen Psychiatry.* 2003;60(6):565–571. https://doi.org/10.1001/archpsyc.60.6.565
83. Ochoa S, Usall J, Cobo J, Labad X, Kulkarni J. Gender differences in schizophrenia and first-episode psychosis: a comprehensive literature review. *Schizophr Res Treatment.* 2012;2012:916198. https://doi.org/10.1155/2012/916198
84. Keval H. Race, gender, and psychosis. In: Brown M, Charles M, eds. *Women and the Psychosocial Construction of Madness.* Lanham, MD: Rowman & Littlefield; 2019:9–30.
85. Rosen C, Jones N, Longden E, et al. Exploring the intersections of trauma, structural adversity, and psychosis among a primarily African-American sample: a mixed-methods analysis. *Front Psychiatry.* 2017;8:57. https://doi.org/10.3389/fpsyt.2017.00057
86. Glauser W. Why some doctors want to defund the police. *CMAJ.* 2020;192(48):E1644–E1645. https://doi.org/10.1503/cmaj.1095905
87. American Public Health Association. Advancing public health interventions to address the harms of the carceral system. Policy Statements. October 24, 2020. Available at: https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2021/01/14/advancing-public-health-interventions-to-address-the-harms-of-the-carceral-system. Accessed January 18, 2022.
88. Cusack KJ, Morrissey JP, Cuddeback GS, Prins A, Williams DM. Criminal justice involvement, behavioral health service use, and costs of forensic assertive community treatment: a randomized trial. *Community Ment Health J.* 2010;46(4):356–363. https://doi.org/10.1007/s10597-010-9299-z
89. Sandel M, Desmond M. Investing in housing for health improves both mission and margin. *JAMA.* 2017;318(23):2291–2292. https://doi.org/10.1001/jama.2017.15771
90. Aubry T, Nelson G, Tsemberis S. Housing first for people with severe mental illness who are homeless: a review of the research and findings from the At Home–Chez Soi demonstration project. *Can J Psychiatry.* 2015;60(11):467–474. https://doi.org/10.1177/070674371506001102