

Racism and Social Determinants of Psychosis

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Keywords

psychosis, racial discrimination, racism, social determinants, psychotic experiences, neighborhood factors, structural racism, early psychosis

Abstract

The Centers for Disease Control and Prevention has identified racism as a serious threat to public health. Structural racism is a fundamental cause of inequity within interconnected institutions and the social environments in which we live and develop. This review illustrates how these ethnoracial inequities impact risk for the extended psychosis phenotype. Black and Latinx populations are more likely than White populations to report psychotic experiences in the United States due to social determining factors such as racial discrimination, food insecurity, and police violence. Unless we dismantle these discriminatory structures, the chronic stress and biological consequences of this race-based stress and trauma will impact the next generation's risk for psychosis directly, and indirectly through Black and Latina pregnant mothers. Multidisciplinary early psychosis interventions show promise in improving prognosis, but coordinated care and other treatments still need to be more accessible and address the racism-specific adversities many Black and Latinx people face in their neighborhoods and social environments.

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Systematic racism is a powerful form of oppression that exacerbates other negative life events for ethno-racially minoritized individuals—a fact I understand personally. My recent battle with an acute episode of brain dysfunction left me visually impaired, somewhat aphasic, and terrified. But to the White emergency medical services workers, I was just a hysterical Black woman who must be on drugs, was not taken seriously, and did not need to go to the hospital. My PhD, neuropsychological training, and pleas that I was experiencing right visual neglect did not matter. That began the scariest, most racist experience of vulnerability I had ever personally endured. I share this because it exemplifies just how much racism is structured into our interconnected institutions and in the psyches, default reactions, and assumptions of the persons who represent them. It makes potential hardships that can be experienced by anyone (e.g., health issues) that much worse the further one is away from perceived Whiteness. I believe this must be factored into our research and clinical work for one of the most stigmatized mental conditions—psychosis.

—Deidre M. Anglin, PhD

OVERVIEW

This review illustrates how multiple forms of racism (i.e., structural, cultural, behavioral, interpersonal) and white supremacy shape social determinants of psychosis across the extended psychosis phenotype. The determining role of racism in the social epidemiology of psychosis is not exclusively through socioeconomic status (SES) or major obvious traumatic events such as being

brutalized by police officers, although these are obviously very influential. As noted in the personal example above, racism is structured in our institutions and the persons who represent them in ways that shape the social environments and everyday experiences of ethnoracially minoritized persons (i.e., persons not perceived as White) throughout the life course and across generations. The current review builds on a recent narrative racial analysis of social determinants of psychosis in the United States (Anglin et al. 2021) in the following ways: (a) highlighting seminal European studies in this mostly US-based review, (b) including recent empirical work on ethnoracial disparities in psychosis outcomes and socioenvironmental explanatory risk factors for such disparities, (c) focusing on social determinants of health specifically highlighted in Healthy People 2030 that have also been shown to be risk factors for psychosis (i.e., racial discrimination, socioeconomic factors, and neighborhood factors including urbanicity and air quality), and (d) expanding the discussion linking biological mechanisms specifically associated with racial discrimination and psychosis outcomes. Lastly, this review provides suggestions and recommendations for future action and inquiry, highlighting recent promising developments toward the goal of dismantling structural racism's contribution to psychosis outcomes, including risk and prognosis.

RACISM, WHITE SUPREMACY CULTURE, AND THE SOCIAL CONSTRUCTION OF RACE IN THE UNITED STATES

Racism in the United States has always been an entrenched system of oppression that differentially distributes power and resources based on socially constructed racial groups and their perceived proximity to Whiteness (Loveman 1999)—itself a social construct (Guess 2006). Racism is a purposeful system of oppression, as the main goal has historically been to preserve White supremacy—implicit and explicit ideas about the superiority and justified dominance of White people across multiple sectors of society (Grzanka et al. 2019). Many historical horrors have been enacted on racial and cultural groups to build and maintain White supremacy—horrors with legal, social, economic, political, and cultural generational consequences. The genocide of Indigenous Americans, the enslavement and dehumanization of Africans over centuries with no reparations, and the slaughter and destruction of thriving Black communities (e.g., 1921 Tulsa Massacre) are just a few such historical examples with clear implications for the current day. The further you are from this illusory group (Whiteness) phenotypically, culturally, and ancestrally, the more of a threat you become to the maintenance of White supremacy. This is why other systems of oppression (e.g., sexism, heterosexism, classism, anti-Semitism) are so strongly shaped by White supremacy culture. Being gay, poor, a strong woman, or non-Christian also threatens the culture of White supremacy—a culture embedded in institutions of power shaping what is considered normative as well as what is deviant (Jones & Okum 2000). For example, Black textured hair in its natural state is often perceived as unkempt or a sign of illness and is even criminalized (Mbilishaka et al. 2020). There have been a number of incidents where Black boys have been suspended or forced to cut their locked natural hair, prompting the need for legal protections from such cultural hair discrimination (i.e., The Crown Act; LDF 2020).

Structural Racism

Racism is structural, which means that it involves interconnected racially inequitable systems (e.g., housing, education, employment, health care, the legal system) that reinforce each other (Bailey et al. 2017). The inequities in these systems exist because of institutional laws and policies, not just because of single bad apples (e.g., one racist cop or health professional). Discrimination and inequitable practices and policies in one system are connected to inequitable practices and policies in other systems. As demonstrated in **Figure 1**, the neighborhood is directly connected to

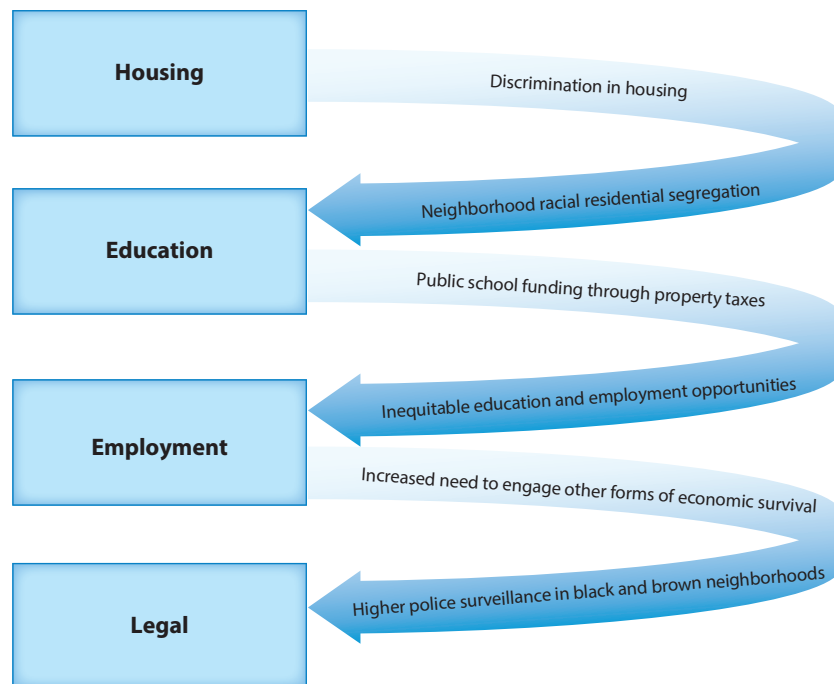


Figure 1

Structural racism: Inequitable practices and policies are connected to each other across institutions, including housing, education, employment, and legal settings.

the quality of educational opportunities available, which is connected to employment opportunities or lack thereof and the probability of resorting to nonlegal forms of survival. This structural interconnection of systems creates social and environmental conditions and experiences that are also inequitable across racial and cultural groups.

Social Determinants

Social determinants, which are social and environmental conditions experienced across the life span and over generations (HHS ODPHP 2018), are particularly relevant for health outcomes of marginalized groups, including ethnoracially minoritized groups (Allen et al. 2014). The importance of these social determinants for health is acknowledged as one of the five overarching ways to improve overall health in the United States during the next decade in Healthy People 2030 (Hasbrouck 2021). Racism and discrimination, physical environment, poverty, and health care access are specifically named in this initiative. Compton & Shim (2015) describe how policy and social norms create pervasive inequities in social and environmental conditions across the US population. Such conditions, both directly and in concert with biological risk, affect onset, severity, and remission of psychopathology (Silva et al. 2016). These social policies and norms influence access to important resources (e.g., education, health care, social capital) and exposure to environmental toxins and to stressors, such as interpersonal discriminatory experiences.

This is why structural racism has been deemed a fundamental cause of racial health inequities. Phelan & Link (2015) demonstrate how structural racism contributes on a fundamental level to racial health disparities through socioeconomic factors (e.g., money, knowledge, education, job security, health insurance) and limitations on freedom and social capital in segregated

neighborhoods (Williams et al. 1997). As an example, the policing of poverty and the uphill battle to avoid arrest or harassment in many Black and Brown communities impede freedom and the social and environmental conditions in these communities. These socioeconomic factors and limitations on freedom create socioenvironmental conditions that shape a person's ability to avoid risk factors for disease, engage in prevention to sustain such avoidance, engage in treatment if ill, and minimize consequences of illness (Silva et al. 2016).

ETHNORACIAL DISPARITIES IN MENTAL HEALTH TREATMENT

Structural racism as a fundamental cause of health inequities is reflected in racial disparities in mental health treatment. Black and Latinx people have consistently been less likely (approximately half as likely) to seek voluntary mental health treatment than non-Hispanic White people despite perceived need (Cook et al. 2019). In contrast, for inpatient treatment specifically, Black people are more likely than non-Hispanic White people to receive this treatment—a type of treatment that is more likely to be involuntary or coercive (O'Callaghan et al. 2021). Furthermore, once in mental health treatment, Black and Latinx groups are more likely than non-Hispanic White people to drop out of treatment (Maura & Weisman de Mamani 2017) and to generally receive lower quality of care if they continue in treatment (Breslau et al. 2018).

One of the defining features of a fundamental cause is that it persists as a cause of disparate outcomes despite intermediary interventions (Link & Phelan 1995). As soon as the field figures out how to prevent or improve the disease outcome, those who are more disenfranchised will be less likely to benefit from such advancements, thereby widening the gap further (Link & Phelan 1995). This pattern has been demonstrated historically for the treatment of schizophrenia. Racial and ethnic disparities in modern-day treatment of schizophrenia are evident in prescribing practices (Puyat et al. 2013). The advent of second-generation antipsychotics in the 1990s was a tremendous breakthrough in treatment of psychosis, yet Black people with schizophrenia were 76% less likely than White people with schizophrenia to be prescribed this class of medication in community settings (Kreyenbuhl et al. 2003) and six times less likely in academic research clinical settings (Mallinger et al. 2006). Furthermore, several studies found a higher frequency of depot medications being prescribed specifically for Black males than for other groups (Das-Munshi et al. 2018, Mark et al. 2003). In addition to a history of racial disparities in prescribing practices, some evidence in the United Kingdom has suggested racial disparities in access to nonpharmacological adjunct treatments such as cognitive behavioral therapy (CBT) and family-based interventions (Das-Munshi et al. 2018). Yet CBT is recognized internationally as an evidence-based adjunct treatment to medication for persons with schizophrenia (Dixon et al. 2009). CBT for psychosis has shown promise in helping reduce positive psychotic symptoms, but some European studies of Black populations find higher dropout and less improvement in factors such as insight among patients receiving CBT (Rathod et al. 2005).

We have again made progress in the treatment of psychosis with the emergence of a growing body of research demonstrating the benefits of early intervention specialty services for persons experiencing their first episode of psychosis (FEP) (Correll et al. 2018). This research highlights the benefits of a multidisciplinary and team-based approach to psychosis intervention and a more recovery-oriented holistic approach to patient care (Mueser et al. 2015). As an example, in the Recovery After an Initial Schizophrenia Episode Early Treatment Program (RAISE-ETP), participants who completed the enriched intervention (NAVIGATE) demonstrated better treatment outcomes than participants receiving regular community care, including better quality of life and better vocational and clinical outcomes (Kane et al. 2016). Some studies based on earlier FEP cohorts found ethnoracial group differences in trajectories of recovery, with minoritized groups more likely to demonstrate poorer functional outcome trajectories and symptom improvement

over time (Hall et al. 2019). A more recent study based on RAISE-ETP data suggested similar treatment outcomes between Black and White individuals receiving NAVIGATE (Nagendra et al. 2023), but among those receiving regular community care, Black individuals had less psychotic symptom improvement and were less likely to be receiving individual treatment than White individuals (Oluwoye et al. 2018). There were also several psychosocial baseline differences between Black and White participants in the RAISE-ETP study including lower quality of life, neurocognitive measures, and access to private insurance and greater residential stability among Black respondents (Nagendra et al. 2018). In addition, Black participants were more likely than White respondents to have been prescribed first- rather than second-generation antipsychotics (Robinson et al. 2015). These racial disparities in the precursors to treatment as well as experiences during treatment are likely connected to the structural and socioenvironmental barriers that Black people with psychotic disorders continually face. For the promising gains in new interventions (e.g., NAVIGATE) to be sustained and effective in mental health settings across the United States, these barriers need to be factored into the treatment model.

ETHNORACIAL DISPARITIES IN PSYCHOSIS

Evidence regarding the existence of mental health treatment racial disparities has been fairly uncontested in the United States. In contrast, claims that ethnoracially minoritized groups such as Black Americans are at higher risk of psychotic disorders than White Americans have been more controversial. Adequate characterization of the social patterning of psychosis in the United States, especially regarding racial disparities in incidence and prevalence, continues to elude the field even though one of the first epidemiologic studies to empirically examine ethnic differences in schizophrenia emanated from the United States in 1932. Ødegård (1932) found that Norwegian immigrants to the United States were twice as likely to be diagnosed with schizophrenia compared with US-born individuals and those in Norway. While racially similar to the contemporaneous dominant caste of American society (i.e., of European ancestry), the Norwegian immigrants were still othered and marginalized within the social hierarchy of that time for being immigrants. This inspired a line of fruitful research examining associations between ethnic minority status and psychosis in primarily Northern European countries (the United Kingdom, Sweden, and the Netherlands).

One of the earlier rigorous UK-based studies focused on ethnicity and psychosis, the Etiology and Ethnicity in Schizophrenia and Other Psychoses (AESOP) study, found an alarmingly elevated incidence rate ratio of psychosis for Black Caribbeans [6.7; 95% confidence interval (CI) 5.4–8.4] and Black Africans (4.1; 95% CI 3.2–5.3) compared with White Brits (Fearon et al. 2006, Kirkbride et al. 2006). Elevations were also found among Asian immigrant groups compared with White Brits, albeit less pronounced. Likewise, in the Netherlands, incidence studies found higher rates of schizophrenia in non-Western immigrant groups (i.e., Black African groups from Morocco, Suriname, and the Dutch Antilles) compared with White Dutch individuals (Veling et al. 2006).

While a sizable body of US-based research dating back several decades has demonstrated that African Americans (and sometimes Latinx groups) are overrepresented among the patient population with psychotic disorders (Adebimpe 1981, Minsky et al. 2003, Schwartz & Blankenship 2014), another substantial body of research demonstrates that African Americans are disproportionately misdiagnosed with schizophrenia for a variety of reasons, including clinician bias (Olbert et al. 2018) and sociopolitical historical factors (Metzl 2010). In particular, several studies have highlighted the tendency for clinicians to underemphasize depression and other affective symptoms among Black people in clinical settings (Mukherjee et al. 1983) and academic research clinical settings (Strakowski et al. 1996) and to generally be more unreliable in their diagnoses of

Black patients with psychosis (Anglin & Malaspina 2008). In a more recent study of the Rutgers outpatient mental health care system, Black Americans were more likely than White people to receive a diagnosis of schizophrenia and less likely to receive a diagnosis of psychotic depression even though the rates of current depressive episodes in the White and African American samples were very similar (Gara et al. 2019).

This hypothesis of clinician misdiagnosis has also been tested in UK-based studies that found that, among those diagnosed with a first episode of psychosis, Black Caribbean individuals were significantly less likely than White British individuals to have a continuous course of psychosis after 4 years (McKenzie et al. 1995), implying they may have been misdiagnosed at baseline. Still other more recent UK-based samples (AESOP-10) have found worse clinical and functional outcomes among Black British people compared with White British people at 10-year follow-up, suggesting they were not initially misdiagnosed (Morgan et al. 2017).

There has been limited systematic epidemiologic work exploring racial differences in psychotic disorders incidence in the United States, in large part because of the lack of a centralized health register to obtain an accurate denominator for incidence calculation and methodological issues with sample selection in epidemiologic studies (e.g., differential access to health care based on race and SES; van der Ven & Kirkbride 2018). In their meta-analysis, Olbert et al. (2018) found that in both structured and unstructured schizophrenia assessments, Black individuals were diagnosed with schizophrenia more so than White individuals [omnibus odds ratio (OR) 2.42; 95% CI 1.59–3.66; Cohen $d = 0.5$]. This meta-analysis included data from the Kaiser Permanente California birth cohort study, one of the more robust US-based studies that examined this disparity. Bresnahan et al. (2007) demonstrated a threefold elevated risk of schizophrenia spectrum diagnoses for Black health plan members compared with White members. Notably, after adjustment for several SES indicators, this risk was reduced to 1.92 with a confidence interval that narrowly included zero.

In the recent All of Us Research Program (Barr et al. 2022), the prevalence of psychiatric disorders was examined in a large prospective cohort across the United States (over 350,000 participants) who provided access to electronic health record information. While non-Hispanic White people had a generally higher prevalence of most common mental health disorders (e.g., mood disorders, anxiety disorders, substance use disorders) than ethnoracially minoritized groups (e.g., Black, Hispanic, Asian), Black individuals [aOR = 1.22 (0.05); 95% CI 1.10–1.36] and multiracial individuals [aOR = 1.72 (0.14); 95% CI 1.30–2.28] specifically had higher odds of schizophrenia compared to non-Hispanic White individuals. Though misdiagnosis still cannot be ruled out as an influential variable, racial disparities in psychosis outcomes exist across the spectrum including subthreshold phenomena that do not involve clinician diagnosis.

An increasing number of epidemiologic studies investigate the psychosis phenotype more broadly to understand psychosis risk. Psychosis constitutes a continuum of unusual thinking, fixed beliefs, and altered perceptions that can range from subclinical experiences to clinically debilitating disorders. These experiences do not reach the clinical threshold for a psychotic disorder, and symptoms can occur independently of clinical psychotic disorders such as schizophrenia. But they have similar developmental risk factors to schizophrenia (Kelleher & Cannon 2011) and create an opportunity to identify risk factors for psychotic disorders. They are fairly common in the general population with a median prevalence of 7.2% (Linscott & van Os 2013) and are slightly more so in the US general population with an 11% rate (Cohen & Marino 2013). Only a very small portion of those reporting psychotic experiences in the general population actually meet diagnostic criteria (as assessed by a clinician) for psychotic disorders such as schizophrenia and schizophreniform. Nonetheless, psychotic experiences are often associated with poorer prognosis and greater severity in common mental disorders and can be clinically relevant.

A recent meta-analysis of mostly European studies showed that US Latinx (OR 1.98; 95% CI 1.43–2.73) and Black (OR 1.85; 95% CI 1.39–2.47) populations report more psychotic experiences than White populations (Leaune et al. 2019). A growing number of US-based studies have demonstrated this racial disparity in various non-treatment-seeking settings. Specifically, in the Comprehensive Psychiatric Epidemiology Surveys (CPES), Black Americans (15.3%) and Hispanic Americans (13.6%) reported significantly more psychotic experiences than White Americans (9.7%) (Cohen & Marino 2013). Furthermore, within each ethnoracially minoritized group in the CPES studies (i.e., Asian, Latinx, and Black), migration was protective for psychotic experiences with first-generation individuals exhibiting lower psychotic experiences than US-born individuals (Oh et al. 2015). Likewise, in their nationally representative sample of young adults in the United States (i.e., National Survey of Poly-victimization and Mental Health), DeVlyder et al. (2023) also found that Black and Hispanic Americans reported significantly more psychotic experiences than White Americans. A similar racial disparity has even been found with younger populations. In the Philadelphia Developmental Cohort, non-White American youth had 1.68 (1.38–2.05) greater odds of being on the psychosis spectrum than White youth (Calkins et al. 2014), and in the Adolescent Brain Cognitive Development (ABCD) cohort study of 9- and 10-year-olds (Karcher et al. 2022), Black and Hispanic children self-reported the highest rates of distressing psychotic experiences.

Studies that have focused on racial disparities in psychotic experiences within college samples in the United States have found fairly similar patterns in large national college samples [e.g., Healthy Minds Study (HMS)] and in more local college settings (e.g., Anglin et al. 2021). In the fall and spring cohort of the 2020–2021 HMS, in a sample of over 76,000 college students, Oh et al. (2022) found that the prevalence of psychotic experiences was significantly higher for Black college students (38%) compared with White college students (30%). Likewise, in their urban sample of emerging adults, Anglin & Lui (2023) found that Black and Asian college students self-reported more psychotic experiences and more distressing psychotic experiences than White college students. Thus, recent US-based studies on psychotic experiences show a clear pattern of racial disparities in prevalence—disparities that are not explained by misdiagnosis or clinician bias and that may have implications for racial disparities in clinical psychosis risk.

RACIAL DISCRIMINATION, SOCIOENVIRONMENTAL RISK, AND PSYCHOSIS

Anglin et al. (2021) conducted a conceptual analysis of a number of studies; their findings suggest that any ethnoracial group disparities across the psychosis phenotype between Black and Latinx groups and White groups are largely explained by socioenvironmental risk factors driven by structural racism. These risk factors include individual-level and macrolevel social environmental factors that drive stress and have biological consequences. One such risk factor that has been examined in relation to psychosis is exposure to interpersonal racial discriminatory experiences—the behavioral manifestation of racism. A large body of research suggests that racial discrimination is associated with several physical and mental health outcomes (e.g., cardiovascular outcomes, psychological distress) for Black groups (Williams & Mohammed 2013) and especially Asian American and Latinx groups (Paradies et al. 2015). Notably, this relation is not explained by higher class status, age, or sex (Paradies et al. 2015). In fact, studies suggest that upwardly mobile African Americans in particular are at increased risk for negative health outcomes associated with racial discrimination (Colen et al. 2018). The race-related stress of these discriminatory experiences (being treated unfairly, made to feel inferior, treated like a perpetual foreigner, etc.) is purported to create an accumulation of stress responses that negatively affect health over time (Harrell 2000).

An increasing number of US-based studies have demonstrated that racial discrimination is related to psychosis outcomes (Anglin et al. 2014, Oh et al. 2014) including for clinical high-risk status in the North American Prodrome Longitudinal Study (Stowkowy et al. 2016). A recent meta-analysis (Bardol et al. 2020) demonstrated the importance of racial discrimination for both psychotic symptoms (OR 1.77; 95% CI 1.26–2.49) and psychotic experiences (OR 1.94; 95% CI 1.42–2.67). Another review (Pearce et al. 2019) demonstrated this relation in a dose–response fashion with increasing frequency of discriminatory experiences associated with increased numbers of psychotic experiences. A recent study (Anglin & Lui 2023) unpacked different forms that racial discrimination can take including through societal institutions and organizations that involve major structural inequities (e.g., not being hired for a job, being harassed and surveyed by police) and microaggressions, which are everyday verbal and nonverbal slights and experiences that are subtle but invalidating, demeaning, and aversive (Dovidio & Gaertner 2004, Pierce 1970). Both forms were independently related to psychotic experiences in an urban college sample, and both forms explained the mean difference in psychotic experiences between Black and White college students—almost 10% of the difference.

Several studies in northern European countries have also demonstrated this association for psychotic disorder incidence (Morgan et al. 2006, Veling et al. 2006). Few studies in the United States have examined experiences of racial discrimination among people with clinical psychotic disorders such as schizophrenia using epidemiologic data because of low statistical power and the underrepresentation of those with serious mental illness in households captured by these surveys. But recently, Bommersbach et al. (2023) examined this issue in the US National Epidemiologic Survey on Alcohol and Related Conditions-III. A little over 900 respondents (2.5% of the sample) self-reported a diagnosis of schizophrenia or other psychosis. The results indicated that Black respondents reported significantly more experiences of racial discrimination (Cohen $d = 0.75$) compared with White respondents, especially in public, in seeking employment, in the health care system, and in being threatened or physically assaulted because of their race. Notably, Black individuals were also less likely to receive mental health or psychiatric treatment.

Racism and Psychosis: Stressful and Traumatic

Racial discrimination is associated with psychosis outcomes because it is perceived and experienced as stressful (Berger & Sarnyai 2015) and propagated in multiple social environments (in schools, at work, in public) and at multiple levels including the neighborhood level (e.g., police violence, hazardous environments) (Anglin et al. 2021, Williams & Mohammed 2013). Racism is also related to psychosis because it has created a historical trauma for Black Americans, wounding members of this community across the life span and over generations through collective mass experiences (e.g., slavery, Jim Crow, mass incarceration) that have resulted in persistent inequities across generations (Bolden et al. 2020). This trauma is linked with psychosis whereby psychotic symptoms such as hallucinations are part of an overall posttraumatic stress disorder (PTSD) (Hardy & Mueser 2017). The hypervigilance common in PTSD could be interpreted as paranoia (Bolden et al. 2020). Thus, because of this historical racial trauma, Black people in particular may be more vulnerable to these psychotic symptoms that are part of the sequelae to historical racial trauma. In a study of urban college students, Polanco-Roman et al. (2016) found that dissociation, which is often associated with posttraumatic reactions, was associated with exposure to racial discrimination even after controlling for other traumatic life events. This is consistent with race-based traumatic stress theory (Carter 2007), which suggests that some ethnoracially minoritized individuals experience racial discrimination as psychological trauma—a trauma likely connected to the historical mass trauma that has persisted through different policies over generations.

Racism and Psychosis: Through Socioeconomic Factors

As noted above, structural racism operates not just through interpersonal experiences of discrimination but also through socioeconomic factors, such as those connected to access to food, money, and housing security, and through neighborhoods, the primary places where people breathe, live, eat, learn, and develop. Few studies have empirically examined whether exposure to discrimination and other social environmental factors explain the association between ethnoracially minoritized grouping (especially Black self-identification) and psychosis outcomes despite the public health improvements to be gained from such an understanding (Anglin et al. 2020a). The few studies examining discrimination and other social determinants as explanatory factors for ethnoracial differences in psychotic disorders have occurred in European contexts. For example, Misra et al. (2022) examined a large representative case–control study of several mostly European populations, the EU-GEI study, and found that general experiences of major discrimination explained 5.1% of the variance in the relation between ethnoracial minority status and increased odds of psychotic disorder incidence. Jongsma et al. (2021) studied this sample and found that indicators of social disadvantage other than interpersonal racial discrimination were strong explanations of ethnic differences in psychotic disorder incidence. Specifically, they found that indicators of social disadvantage and sociocultural distance from the cultural majority, as measured by degree of linguistic difference, were stronger explanations of ethnoracial differences in psychotic disorder incidence. These factors would also still likely be connected to structural racism, especially in a US setting.

More recent studies examining socioenvironmental explanatory factors for racial differences in psychotic experiences have been done in the United States. In one nationally representative study, DeVyllder et al. (2023) examined the degree to which socioenvironmental risk factors associated with psychosis risk, such as household income and education, urbanicity, traumatic experiences, and exposure to police violence, explain ethnoracial group differences in psychotic experiences. They found that the higher frequency of psychotic experiences among Black and Latinx groups compared with the White group was explained by exposure to racial discrimination and police violence exposure and lower average educational attainment. Exposure to adverse childhood events also significantly explained the difference in psychotic experiences, but only for the Latinx–White group difference. Similarly, Oh et al. (2022) examined whether socioeconomic factors such as financial stress and food insecurity, in addition to discrimination, explained ethnoracial differences in psychotic experiences among Black and White college students in the HMS. They found that financial stress, food insecurity, and racial discrimination collectively accounted for 84.75% of the racial difference in psychotic experiences, with food insecurity accounting for the majority of this difference (almost 58%). These studies highlight how important it is to not solely examine ethnoracial group differences without also examining the inequities in social determinants that racism fundamentally causes. In these college settings, which most associate with having a higher SES overall, food insecurity was a significant issue that explained why Black college students self-reported more psychotic experiences on average than White college students. These social, economic, and educational systems in society are interconnected in ways that contribute to inequities in outcomes across the psychosis spectrum including risk.

RACISM, NEIGHBORHOODS, AND PSYCHOSIS

Structural racism shapes social determinants of health through neighborhoods. The neighborhood encompasses the physical environment—the noise you hear and the air you breathe, but also the social environment—the connections and capital you create and inherit and the people around you. Historically, these important spaces have been racially segregated through policy, law, and informal practices in such a way that Black and Latinx people are more likely than White

people to live in segregated disadvantaged neighborhood settings with concentrated poverty, lower-resourced schools, more unemployment, and less home ownership among residents (Massey 2001, Williams & Mohammed 2013). This reality very much shapes the lived experiences of a significant portion of Black and Latinx people where they live, thereby increasing risk for mental health outcomes such as psychosis through chronic stress (Corcoran et al. 2003). Several European studies have examined the social environment captured in neighborhoods and risk for psychotic disorders (Allardyce & Boydell 2006, Lichter et al. 2014). While some of this work has focused on the physical environment—with urbanicity and population density, lack of green space (Engemann et al. 2018), and exposure to environmental pollution (Attademo et al. 2017) being associated with psychosis—most of the existing work focuses on the social environment including the predominant distribution of ethnoracially minoritized groups among residents and social fragmentation and cohesion among the residents (Baker et al. 2021).

Urbanicity and Air Pollution

A recent systematic review of studies from mostly high-income European contexts suggests that urban living contributes to psychosis risk, supporting previous findings from several earlier studies and meta-analyses (Vassos et al. 2012). It is still not clear why urbanicity contributes to psychosis risk because “urbanicity” involves many components (Abrahamyan Empson et al. 2020). Some studies suggest that urban living is just more stressful, while other, more recent studies suggest it may be air pollution that is confounding the urbanicity–psychosis relation. In one study that controlled for several demographic factors and health behaviors, air quality in London—specifically, air pollutant levels of particulate matter, nitrogen dioxide, oxides, and ozone—was related to 33% increased odds of psychotic experiences (Bakolis et al. 2021). Likewise, using a longitudinal twin cohort study and controlling for a number of other sociodemographic and environmental factors, Newbury et al. (2019) found that while urbanicity was related to psychotic experiences during adolescence, exposure to air pollutants in these environments explained a substantial portion of this relationship (60%).

DeVylder et al. (2018) found that the urbanicity–psychosis relationship was not significant in low- and middle-income countries. And in the United States, Oh and colleagues (2020) found that the direction and nature of the relation between urbanicity and psychotic experiences were dependent on ethnoracial group. Specifically using data from the CPES, they found no relation between urban upbringing and psychotic experiences for White people, and urban upbringing was actually related to lower psychotic experiences for Black people. Instead, rural upbringing was related to greater psychotic experiences for Black Americans. Recently, Saxena & Dodel-Feder (2022) expanded on this work and examined youth in the United States through the ABCD study; they found, as with the Bakolis et al. (2021) London study, that the relationship between urbanicity and persistence of psychotic experiences after 1 year was in large part explained by air pollutants as well as by the higher percentage of families living in poverty in the identified Census area. Thus, the role of urbanicity in psychosis risk must be unpacked in future US-based studies with more precise measurement of air quality, poverty, and ethnoracial group dynamics. Some aspects of living in an urban environment might be protective for minoritized groups (e.g., socially), while other aspects may promote stress.

Neighborhood: Social Environment

Much work on neighborhood factors and psychosis has examined ethnic density and social cohesion in neighborhoods, which can be components embedded in an urban environment that are more specific to the racial, cultural, and social dynamics one encounters day to day. Several

European epidemiologic studies (for a review, see Baker et al. 2021) support the protective ethnic density effect hypothesis for psychosis. This hypothesis posits that ethnoracially minoritized individuals living in high-ethnic-density neighborhoods (i.e., with a large proportion of one's own ethnic group) have higher access to social support, community networks, and social cohesion than counterparts living in low-ethnic-density areas. In this way, ethnic density is a protective factor against the psychological effects of racial discrimination (Bécares et al. 2009). The aforementioned studies show that ethnoracially minoritized individuals living in low-ethnic-density neighborhoods have higher rates of psychotic experiences and disorders than those living in neighborhoods with higher ethnic density (Anglin 2020, Kirkbride et al. 2007) even after accounting for neighborhood-level economic deprivation (Bosqui et al. 2014). A recent meta-analysis of mostly UK- and Netherlands-based studies (Baker et al. 2021) found that a 10% decrease in own-group ethnic density was associated with a 20% increase in psychosis risk; this was particularly true for Black populations and not necessarily for other ethnoracially minoritized populations, such as some Asian populations (e.g., Pakistanis) (Halpern & Nazroo 2000). One of the few US-based studies examining ethnic density and subclinical psychosis outcomes measured perceived neighborhood ethnic density, which better captured the perspective of urban residents. Anglin et al. (2020b) found that ethnoracially minoritized college students who grew up in neighborhoods predominantly inhabited by another ethnoracially minoritized group (e.g., being Black in a predominantly Asian neighborhood) self-reported the highest level of psychotic experiences and distressing psychotic experiences. Also, perceived changes in neighborhood ethnic density over time were associated with higher psychotic experiences. The possible childhood link between cultural isolation and bullying, which has also been related to psychosis (Cunningham et al. 2016), should be examined further. Future studies of ethnic density and psychosis should simultaneously examine racial segregation. In a nationally representative UK sample, Shankley & Laurence (2022) found that mental well-being was at its worst for low and especially high levels of racial segregation, regardless of ethnic density, and this was particularly true for Black individuals compared with Asian individuals. Having high ethnic density but with low integration may increase the risk for psychosis outcomes because more integration likely lends itself to greater exposure to informal social capital and resources.

Relatedly, both direct and vicarious police victimization are likelier to occur in predominantly Black and Latinx neighborhoods. This adds to racial trauma experienced in these populations and is another social determinant related to psychosis outcomes in the United States and, generally, a significant public health challenge facing the United States (DeVylder et al. 2022). Specifically, DeVylder et al. (2017) studied four large US urban contexts and found that individuals who self-reported different types of police victimization [e.g., physical (with or without a weapon), sexual, psychological, neglect] were more likely to self-report psychotic experiences. The social and cultural dynamics in a neighborhood can be stressful, socially isolating, and threatening depending on where one resides. This creates an additional layer of risk collectively over and above any individual negative life event that may also be experienced.

BIOLOGICAL LINKS BETWEEN SOCIAL ENVIRONMENT, DISCRIMINATION, AND PSYCHOSIS

An increasing number of studies have demonstrated the relation between environmental risk factors such as adverse childhood experiences, neurobiological effects, and development and maintenance of psychiatric disorders (Harnett 2020). But few studies have directly examined this full link as it pertains to racism-related stress and risk factors for psychotic disorders specifically. Yet repeated exposure to acute experiences of racial discrimination in one's social environment has been linked to chronic stress processes (APA Work. Group Stress Health Disparities 2017)

in which the body's typical response to stress may be altered. Chronic stress activates and promotes dysregulation in the sympathetic nervous system and the hypothalamic–pituitary–adrenal axis (Grasser & Jovanovic 2022) in ways that could alter physiological responses over time (Gunnar & Quevedo 2007). Vargas et al. (2020) describe biological mechanisms most associated with psychotic symptoms that could be triggered by chronic stress, including the link between chronic stress and aberrant dopamine and glutamate transmission (Grace 2016, Howes et al. 2015) and chronic inflammation (Bergink et al. 2014), both of which have been linked with psychotic symptoms. Given the scope of this review, I focus on the mechanisms specifically highlighted for racial discrimination exposure, including neural circuitry and threat appraisals, premature aging, and prenatal complications.

Neural Circuitry and Autoimmune Responses

Racism shapes neural circuitry associated with social cognition and autoimmune responses (APA Work. Group Stress Health Disparities 2017). Racial discrimination contributes to negative schemas about the potential intentions of others in such a way where interactions with others are experienced as more threatening, especially in ambiguous situations. The repeated exposure to these discriminatory acts can lead to self-protective vigilance for threats and dysregulation of responses to such threats. This is consistent with what happens with racial trauma—a form of racism-related stress in response to often unpredictable and uncontrollable events that threaten harm and humiliation and involve witnessing racialized violence toward other ethnoracially minoritized people (Comas-Díaz et al. 2019). These race-based stress reactions can produce the types of cognitive and emotional reactions often seen in symptoms of PTSD (e.g., hyperarousal, vigilance) (Carter 2007) and may increase risk for psychotic disorders, as racial discrimination has been associated with paranoia in a dose–response pattern in ethnoracially minoritized populations (Anglin et al. 2014, Combs et al. 2006, Stowkowy et al. 2016).

One study (Harnett et al. 2019) examined the functional neuroimaging of the neural substrates associated with threat-related emotional processing (the prefrontal cortex, hippocampus, and amygdala) and compared responses in Black and White adult respondents from a prospective longitudinal study during an experiment. Black respondents demonstrated a lower behavioral expectancy of cued threats than White respondents and had more blunted neural reactivity in response to the cued threat than White respondents. Notably, this racial difference was significantly explained by higher exposure to negative life events, such as neighborhood disadvantage and violence during adolescence, which was higher among the Black respondents. It is possible that the chronic exposure to threatening environments could blunt the neurological response to a new stressor and also impede the recovery process to such stressors (Teicher et al. 2016). More studies need to determine what these neurobiological differences mean in terms of potential susceptibility to psychiatric outcomes within the psychosis spectrum and, most importantly, how early adversities and exposure to racial discrimination throughout development may have lasting effects on neurobiological health and functioning (Grasser & Jovanovic 2022).

Recently, in a similar study of mostly poor, Black women exposed to trauma, Fani et al. (2021) found that higher exposure to racial discrimination was connected to greater response in neural substrates that capture emotion regulation and fear inhibition (i.e., ventromedial prefrontal cortex). This effect controlled for severity of trauma exposure more generally and PTSD severity. In another study of trauma-exposed Black adults, racial discrimination was associated with altered resting-state connectivity patterns of the salience network with specifically greater connectivity between the thalamus and amygdala and between the anterior insula and precuneus. The authors concluded that racial discrimination is consistently associated with neural correlates of vigilance and hyperarousal (Webb et al. 2022).

Clark et al. (2018) demonstrated that the effect of racial discrimination exposure on neural activity and connectivity to other brain regions is similar to that of other, more researched psychological stressors. Increased resting-state amygdala activity has been observed in individuals who are acutely experiencing social exclusion. Notably, with discriminatory experiences such as racial microaggressions specifically, the person often has to also contend with ambiguity and conflicting feelings due to the subtlety of such acts (e.g., multiple possible reasons for the slight). Studies have shown that the subtle nature of these experiences is associated with a similar—and sometimes greater—mental and physical health response than even overt experiences of discrimination (Jones et al. 2016). In their sample with over 70% African Americans, Clark et al. (2018) observed a similar response whereby everyday discrimination was associated with greater resting state in the left amygdala specifically and then increased connectivity with several important regions including the salience network regions (especially the left thalamus), as was found in the Webb et al. (2022) study.

The Biology of Racism Across Development

Some studies have highlighted the importance of taking a developmental approach to the study of racism, environmental determinants, and neurobiological outcomes. In a sample of Black adolescents, exposure to racial discrimination at age 16 was related to heightened allostatic load at age 20, suggesting that these youth experienced weathering processes at an early age because their bodies had to overexert to maintain homeostasis in response to the chronic stress (Brody et al. 2014). Other studies have similarly found that racial discrimination takes a physiological toll on minoritized populations by speeding up the aging process. Carter et al. (2021) reviewed a number of studies that found that Black individuals, including youth who chronically experience racial discrimination, evidence cellular and epigenetic indicators of premature aging. For example, in a sample of Black Americans, Simons et al. (2021) found that living in disadvantaged neighborhoods, racial discrimination, limited income, and low education were all significantly related to epigenetic measures of biological aging that are associated with morbidity and mortality (i.e., GrimAge Index of Accelerated Aging). Notably, individual-level health behaviors were not related to this epigenetic index—a finding that underscores the need for systemic and environmental change to improve health and longevity.

Using data from the Philadelphia Neurodevelopmental Cohort, Gur et al. (2019) found that traumatic stressful events such as witnessing or experiencing violence and low SES throughout adolescent development were associated with psychosis outcomes and brain structure and function. Specifically, both traumatic stressful events and lower SES were generally associated with reduced brain volume, but for traumatic stressful events specifically, increased gray matter density was observed—a combination that suggests accelerated biological maturation. Carter et al. (2021) used gene expression data from over 350 Black adults with seven waves of data in the Family and Community Health Study and found that high exposure to racial discrimination during early adolescence (age 10–15) was associated with depression in adulthood and accelerated cellular-level aging at average age 29. The role of early adversity and racial discrimination in shaping cellular biology through epigenetic mechanisms should be explored further in relation to psychosis outcomes.

Prenatal Complications, Racial Discrimination, and Psychosis

In their review of obstetric complications, Anglin et al. (2021) cite evidence suggesting that complications such as maternal infection, inflammation and stress, and preterm delivery, which have been associated with increased risk for psychotic disorders in offspring (Fineberg & Ellman 2013, Lipner et al. 2019), are more prevalent in Black mothers (Borders et al. 2015) and Latina mothers

with multiple generations in the United States (Fuentes-Afflick & Lurie 1997, Giscombé & Lobel 2005, Premkumar et al. 2020). While socioeconomic factors and differential access to prenatal care play some role in these inequities, they do not completely explain them (Lu & Halfon 2003). For example, Black women show higher levels of stress biomarkers than White women of the same SES in mid to late pregnancy, including specific inflammatory markers such as C-reactive protein and adrenocorticotrophic hormone (Borders et al. 2015, Gillespie et al. 2016). Studies suggest that exposure to racial discrimination and stress associated with this exposure, particularly in neighborhood contexts, play a significant role in ethnoracial differences in obstetric complications and likelihood of preterm birth (Dominguez et al. 2008, Giurgescu et al. 2017). Discrimination among Black and Latina mothers may contribute to these complications because of heightened responses to stress (e.g., inflammatory responses)—responses in offspring that are also caused by obstetric complications (Lipner et al. 2019).

Conradt et al. (2020) thoroughly describe a model delineating how the multiple forms of stress facing pregnant Black and Latina women because of structural racism negatively affect them, their unborn children, the birth of their infants, and the physiological responses to stress in their infants. Racial discriminatory experiences and racial trauma in pregnant women of color may increase allostatic load, wearing down the body's regulatory systems and causing biological and epigenetic changes in the infant as well as differences in birth outcomes. Notably, the same system of oppression that structures the social environments discussed above directly structures the negative and even life-threatening experiences Black women in particular are more likely to have in the hospital while pregnant and while in labor. As a Black woman, I can personally attest to the frightening experience of not being heard or taken seriously by health professionals when something is going terribly wrong and how challenging this was for my own mental health.

FUTURE DIRECTIONS: WHAT IS HAPPENING, AND WHAT IS NEXT?

Previous recent reviews on racism and social determinants of psychosis (i.e., Anglin et al. 2021, Misra et al. 2022) have thoughtfully described the need for multiple disciplines to prioritize dismantling structural racism and addressing the social determinants of psychosis by making substantial changes in funding priorities, training, and intervention development (Anglin et al. 2021) and by making structural changes to dismantle racism and how we document its role in psychotic disorders (Misra et al. 2022). For example, regarding training, Anglin et al. (2021) highlight how better integration of the DSM-5 cultural formulation interview in the diagnosis of psychosis among clinicians has been shown to improve diagnostic clarity among Black patients in Canada (Adeponle et al. 2015). In addition, formal training on how to assess for racial and historical trauma and a person's responses to such trauma may reveal novel intervention targets that are more relevant for racially minoritized populations at risk for psychosis (Bolden et al. 2020). Misra et al. (2022) also highlight the importance of being specific about which structural dimensions of racism we are studying in our social epidemiology studies. For Black people, we should emphasize racialized policing and incarceration as well as economic exploitation and disinvestment in Black communities and neighborhoods. In any recommendation, it is important to be thoughtful in this process and not rush through proposals of change, acknowledging the long legacies of oppression that have reinforced structural racism's persistence as a fundamental cause of health disparities including for the extended psychosis phenotype.

Change Policies and What We Internalize

The evidence reviewed is compelling for the need to explicitly address racism at structural, institutional, cultural, and interpersonal levels. Exclusive focus on helping Black and other ethnoracially

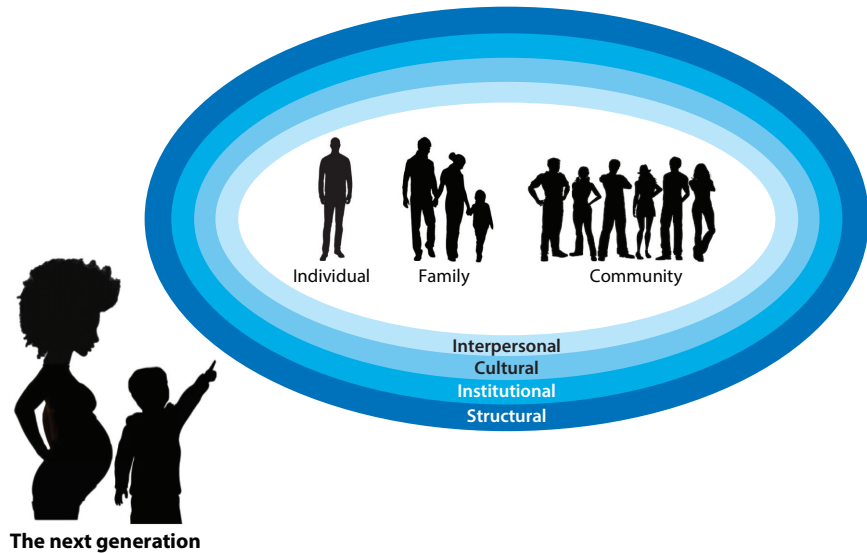


Figure 2

Systemic racism shapes the socioenvironment of individuals, families, and communities across generations through institutions and everyday cultural and interpersonal experiences.

minoritized individuals cope better within a system that is literally shaping the air they breathe is insufficient. While helping individuals one-on-one is still critical, there is a greater need to expand what intervention entails. As shown in **Figure 2**, multiple forms of racism shape future generations of young people who observe and internalize norms—for instance, how people are treated, who gets stopped by the police, and who is represented in the so-called good schools. The child in **Figure 2** grows up observing and learning this, regardless of their ethnoracial group, and these norms get internalized and embedded in psyches as children grow and develop, persisting across generations. More work needs to address how much systematic oppression gets internalized by the oppressed (Bulhan 2004), which Frantz Fanon indicated is one of the main goals of oppression—to hinder a group’s pursuit of self-determination and ability to evolve (Bulhan 2004). This is especially relevant for psychosis, as Oh et al. (2021) found that perceived skin tone discrimination from other Black people was related to a 24% increased odds of self-reporting lifetime psychotic experiences in a national sample of Black Americans. As noted in **Figure 2**, psychology and related fields can move upstream to focus on the concentric circles, not just the one individual impacted by these circles. This likely requires interdisciplinary approaches whereby the psychologists, physicians, and social workers team up with the epidemiology scientists and public policy makers to innovate collectively.

This synergy of scientific, clinical, and public policy disciplines to promote change is absolutely possible. In one recent example, the 988 Suicide and Crisis Lifeline has been launched to better assist members of communities during times of mental health crisis. Black people in mental health crises are more likely to be perceived as dangerous and a threat (Anglin et al. 2006), and Black men in particular are more likely to be shot by the police when unarmed. The 988 helpline is meant to provide an alternative to automatic police dispatch when someone is in mental health crisis and connects callers to trained counselors who can assess the situation and determine whether dispatching police is absolutely necessary. Researchers can closely monitor whether the introduction

of this accessible helpline changes whether individuals in mental health crises in Black and Latinx neighborhoods are more likely to get help or get hurt.

Expand Our Research Methods

The epidemiology studies in the United States require more statistical power to capture psychotic disorders in the population. In addition, national surveys that rely exclusively on household units underrepresent people with psychotic disorders. Promising work is likely underway in response to a recent funding call from the Substance Abuse and Mental Health Services Administration (SAMHSA) to study mental and substance use disorders prevalence (NOFO number FG-19-003). This call encourages better surveillance of spaces where individuals with serious mental illness are overrepresented (e.g., jails, prisons, homeless population). This allows better calculation of point prevalence estimates, characterization of racial disparities in psychotic disorders, and quantification of the burden of mental illness carried by other marginalized populations.

Innovative advances in research designs and statistical models could better capture social determinants and proximal and distal effects on psychosis risk and prognosis more thoroughly. Also, mixed-method approaches can reveal more nuanced information about what matters in the social environments of marginalized groups exposed to racism and other systems of oppression. I am currently conducting a project called Blackphotospeak, which uses multiple methods including photos to capture the ways anti-Black racism in neighborhoods shapes mental well-being among those with a first episode of psychosis. Visual and narrative qualitative methods may be more accessible to some groups and therefore more revealing and informative. We have already seen images consistent with gentrification-related changes in neighborhoods and how such changes can be triggering for young Black people with a first episode of psychosis.

Individual-Level Coping and Treatment

While the need to make these macrolevel changes in neighborhoods and policies is an important call to action, there are still many ethnoracially minoritized individuals currently coping with the internal stress of experiencing discrimination and living, working, and developing within existing racially inequitable institutions. Development of empirically supported treatment for the interpersonal effects of racism across the developmental spectrum (adolescence to late adulthood) is lacking. I am encouraged by a recent study that used CBT to specifically target the stress and trauma due to racism (Williams et al. 2022) and included several components including validating the experiences of clients; education about racism and its connection to mental health, strengthening coping, self-care, and self-compassion; combating internalized racism; and using in-vivo exposure to build skills to confront racist encounters. In addition, a recent systematic review (Jacob et al. 2023) described key ways in which Black people tend to cope with racism. This study highlighted several factors including social support from friends and family, religious activities such as prayer, and confronting situations directly. Findings from this type of research can inform the development of additional multilevel interventions. The authors highlighted the importance of encouraging personal empowerment in coping with racism. This element could be added to existing early intervention psychosis programs that focus on shared decision making in the therapeutic process. Incorporating racial empowerment in these modules may be necessary to truly engage Black and other minoritized groups in this shared treatment process.

Relatedly, more emphasis should be given to problematic pathways to care during premorbid and prodromal phases among those with a first episode of psychosis, which is an important area in need of early and multilevel intervention and prevention modules. Oluwoye et al. (2021) conducted a systematic review of pathways to care among Black people with early psychosis and found

that compounding factors such as trauma, substance use, and structural barriers that occur during the premorbid and prodromal phases contribute to delays in treatment initiation. Mental health intervention may need to be prioritized even earlier in the pathway to address the traumatic childhood experiences that often precede the first episode of psychosis. More prevention efforts can target the community-based supportive safe spaces that young people go to for general support, and more education can be provided to leaders in these spaces about mental health resources to circumvent challenging pathways to care for those who may go on to develop psychosis.

Intersectionality

While this review has mainly focused on racism and Black and Latinx groups, it is imperative for more work to incorporate an intersectional lens when researching racial disparities in social determinants of psychosis outcomes. Recently, van der Ven et al. (2022) highlighted the importance of intersectionality in their work examining recent-onset cases of psychosis in coordinated specialty care programs and predictors of timing to treatment. Instead of looking solely at ethnoracial group, the authors used machine learning methods to capture and incorporate indicators of social position and other clinical symptoms. They found that two of the five clusters had the longest time from symptom onset to first contact with treatment. One cluster was predominantly Asian and Latinx and exhibited depression, psychotic symptoms, and heightened suicidality. The other was predominantly Black and structurally disadvantaged (e.g., homeless, first contact experience involved law enforcement). Notably, these two clusters of different types of disadvantage were stronger predictors of longer timing to treatment than any ethnoracial group alone. Interventions would be better informed with this type of intersectional ethnoracial group lens that incorporates advanced methods and includes variables related to other identities, forms of oppression, and socioenvironmental experiences.

More intersectional work is needed especially at the intersections of ethnoracial group, gender, and sexual orientation. Repeated exposure to social stress occurs when the self in all its social locations is threatened due to stigmatization, discrimination, or exclusion (Meyer 2003). Other oppressed and marginalized groups may be at heightened risk for psychosis as well. In the All of Us study, Barr et al. (2022) actually found that American individuals with low SES and individuals of minoritized sexual orientation were at greatest risk for most psychiatric disorders including schizophrenia. This relation between minoritized sexual orientation and increased risk for psychotic experiences has also been demonstrated in the United Kingdom (Jacob et al. 2021) and for nonaffective psychotic disorders in the Dutch Genetic Risk and Outcome of Psychosis 6-year follow-up case-control study. Notably, in the Dutch study, the relationship was explained by adverse social experiences such as bullying, discrimination, and childhood trauma (Post & Veling 2021). Very few studies have examined sexual orientation and psychosis risk in the United States, but Oh (2021) found that among Asian and Latinx Americans, sexual minority status was associated with psychotic experiences in one of the CPES data sets.

CONCLUSIONS

Dismantling structural racism means dismantling and recreating the institutions that sustain racially inequitable policies, practices, and environments. It also means decolonizing spaces where white supremacy culture predominates and unlearning biases about ethnoracial groups. This is particularly relevant for the field of psychology and other mental health fields that are responsible for helping people when they are often at their most vulnerable. It means acknowledging the wounds of racial historical trauma especially for Black people and how this may affect how someone presents clinically when they are in distress. In addition to directly creating stressful

and traumatic life events, structural racism exacerbates already challenging life events and experiences for ethnoracially minoritized individuals. In the personal example described at the beginning of this article, experiencing acute onset of health problems in and of itself was frightening and challenging, but adding the indignity of being stereotyped, dismissed, and treated incompetently because of my perceived gender and race exacerbated the emotional distress.

Dismantling the racism in our interconnected institutions will improve the stressful social environments that increase psychosis risk for Black and Latinx folks and improve public health in the population more generally. Targeting air pollution, racial segregation in neighborhoods, and the school-to-prison pipeline, for example, can shape the health of generations going forward and reduce the burden of mental illness, including for psychosis. Evidence regarding the biological mechanisms connected to these social determinants, including premature aging, epigenetic effects of stress in pregnant mothers, and neural circuitry threat responses, suggests that we need real interdisciplinary work to make substantial changes at the individual level. Breaking down problematic structures and more effectively supporting those already affected (particularly Black and Latina mothers) are both necessary to elicit substantial change and reduce risk for psychosis. Especially given the enormous toll of the COVID-19 pandemic and resultant stress, isolation, and loss, I fear how this will affect the prevalence of the psychosis phenotype over time. Savill et al. (2022) recently found that a large number of ethnoracially diverse young people (>80%) on the web endorsed at least one distressing psychotic experience on the Prodromal Questionnaire, Brief Version. What does that mean for our youth? Prioritizing addressing the role of racism and social determinants in psychosis outcomes is urgent and overdue, but structural racism is deeply entrenched in our society and field and will take time and active fervor to dismantle. The field must commit and be dedicated while still recognizing that this call to action is not a quick trend but rather a long-term journey toward a complex goal.

SUMMARY POINTS

1. Structural racism and White supremacy are cultural, influencing what is deemed normal and what is deemed deviant. This has likely influenced the misdiagnosis of schizophrenia in Black people who suffer from racial trauma.
2. Structural racism creates inequities in our core interconnected institutions (e.g., housing, education, legal)—inequities that make ethnoracially minoritized populations more vulnerable to risk factors for psychosis.
3. Racial discriminatory stress may increase risk for psychosis in Black and Latinx populations directly through biological processes associated with chronic stress and indirectly through Black and acculturated Latina pregnant mothers who disproportionately experience obstetric complications.
4. Structural racism is a fundamental cause of racial disparities in the extended psychosis phenotype in part through socioeconomic factors, racial discrimination, and neighborhood factors.
5. Neighborhood factors such as urbanicity, air pollution, ethnic density, and police violence play an important role in psychosis risk and should be examined simultaneously in future studies.
6. Empirically supported interventions that specifically target racism-related adversity should be incorporated in promising early intervention psychosis clinical programs.

FUTURE ISSUES

1. More studies employing both qualitative and quantitative methods will increase the degree to which marginalized voices and communities are represented in our clinical research and decision making.
2. An intersectional approach in the study of structural racism and psychosis risk is necessary, as other minoritized identities likely shape this relationship further (e.g., sexually and gender-minoritized groups of color).
3. More interdisciplinary work across scientists, clinicians, and policy makers is required to truly dismantle the inequitable structures that promote mental health burden in ethnoracially minoritized populations.
4. Empirically supported multilevel interventions that directly target the pernicious effects of racism can be created, modeled, and studied in ethnoracially minoritized populations with psychosis.
5. Disrupting the connections between these racially inequitable institutions (e.g., school-to-prison pipeline) is necessary to dismantle the pernicious effects of systemic racism on the health and sustainability of future generations.

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