



UNIVERSITY OF PADOVA

Department of Philosophy, Sociology, Education and Applied Psychology*

Master Degree in Clinical, Social and Intercultural Psychology

Final dissertation

Paranoid or Cautious: An Evaluation of the Disparities Between Black and White

Individuals in the Diagnosis of Schizophrenia

Supervisor

Professor ...Dr. Peter Kramer.....

Co-supervisor (if present)**

Professor / PhD

Candidate: Remy Cusick

Student ID number: 2040715

Academic Year *2022/2023*

* Candidates must also mention the name of the Department of their supervisors if they don't belong to the Department of Philosophy, Sociology, Education and Applied Psychology.

** No more than two people.

Paranoid or Cautious: An Evaluation of the Disparities Between Black and White Individuals in
the Diagnosis of Schizophrenia
Submitted to the Faculty of
University of Padova in partial fulfillment
of the requirements
for the degree of Master of Clinical, Social and Intercultural Psychology

by

Remy Cusick

University of Padova

35122, Padova, Italy

18 Oct 2023

Abstract

Background: Racism has a long history and exists throughout the world, although definitions of race, ethnicity and racism have varied across time and culture. The detrimental effects of racism for the target have been widely researched and studied.

Discussion: This paper discusses the disparities in diagnosis for schizophrenia between Black and White individuals. The connection between racial discrimination and psychotic symptoms is discussed, as well as assessment methods and clinician bias. Potential solutions are presented, including representation in scientific research, an ethics board and changes to counseling and assessment approaches. Increasing diverse researchers and participants will improve the generalizability of findings regarding schizophrenia. Moreover, adapting counseling approaches to consider help seeking behaviour, alternative pathways to care, and the effects of adaptive paranoia will particularly help minority clients cope and heal.

Conclusion: The disparities between Black and White individuals in the diagnosis of schizophrenia, offers an opportunity for psychologists to systemically respond and support people who have already suffered from mistreatment due to racial discrimination.

Keywords: racism, schizophrenia, discrimination, misdiagnosis, overdiagnosis

Paranoid or Cautious: An Evaluation of the Disparities Between Black and White Individuals in
the Diagnosis of Schizophrenia

Chapter 1: Ethnicity vs. Race	6
Ethnicity	6
Racial Conceptualization	7
Chapter 1: Summary	11
Chapter 2: Racism and Its Effects	12
Institutional Racism	14
Interpersonal & Intrapersonal Racism	17
Cultural Racism	19
Effects of Racism: Health Outcomes	22
Chapter 2: Summary	24
Chapter 3: Diagnostic Criteria, Rates of Diagnosis & Risk Factors	25
ICD-10 and ICD-11	25
DSM-IV and DSM-5.....	27
Schizophrenia Diagnoses	29
Schizophrenia Diagnoses: the USA, the UK and the Netherlands	30
Demographic Risk Factors.....	33
Chapter 3: Summary	45
Chapter 4: Overdiagnosis vs. Misdiagnosis of Schizophrenia	47
Comorbidities with Schizophrenia Diagnoses	50
Diagnostic Tools for Schizophrenia.....	52
Clinician Bias.....	55
Chapter 4: Summary	58
Chapter 5: Racism, Schizophrenia, and Psychosis	59
Cultural (Adaptive) Paranoia and Healthy Suspiciousness	63
Chapter 5: Summary	65
Chapter 6: Pathways and Responses to Treatment of Schizophrenia	66
Barriers to Accessing and Seeking Treatment.....	67

Antipsychotics.....	70
Cognitive Behaviour Therapy (CBT).....	73
Religiosity.....	76
Chapter 6: Summary.....	82
Chapter 7: Discussion and Conclusion	84
Conclusions.....	90
References.....	91
Supplemental Resources.....	Error! Bookmark not defined.

Chapter 1: Ethnicity vs. Race

Understandings of race develop through historical circumstances (De Wolfe et al., 2021; Obach, 1999; Richeson & Sommers, 2016), for example, between the 16th and 18th centuries the term *race* in English was a folk idea and interchangeable with other words like *type*, *kind*, *sort*, *breed* (Smedley & Smedley, 2005). A variety of terms have been used for ‘*race*’ with it at times used interchangeably with ‘*ethnicity*’ (Roberts et al., 2020). Some researchers have delineated ‘*ethnicity*’ as referring to cultural groups and ‘*race*’ when referring to physical markers, like skin tone, for group membership (Richeson & Sommers, 2016). Although *race* is an important way for categorizing people and experiences (Bobo & Fox, 2003), *race* signified a new ideology about human difference by offering a new way of structuring society and categorizing people that had not existed before in human history (Smedley & Smedley, 2005), particularly because racial conceptualization occurred before, and thus outside of, modern science (Morning, 2011).

Ethnicity

Ethnicity refers to “clusters of people who have common culture traits that they distinguish from those of other people. People who share a common language, geographic locale or place of origin, religion, sense of history, traditions, values, beliefs, food habits and so forth, are perceived and view themselves as constituting, an ethnic group” (Smedley & Smedley, 2005), thus ethnicity is, in part, defined by the individual about themselves (Risch et al., 2002). Risch et al. (2002) also include that ethnicity has potential genetic meaning, if it defines an endogamous group (geographically isolated and in-bred) that can be differentiated from other groups. They find that mating patterns and the degree to which groups remained endogamous are important for studying ethnicity; however, they also find that migration patterns have complicated race and ethnicity (Risch et al., 2002). Specifically, geographic isolation and endogamy due to social or

cultural forces over a long period of time can enhance genetic differentiation whereas migration reduces it (Risch et al., 2002). Yet others caution against using genetics in definitions of ethnicity, particularly because ethnicity and ethnic groups are flexible, subject to change and reflect culture traits but not innate biological traits (Smedley & Smedley, 2005). All of the characteristics determined by genetics are clinal (the gradual variation in physical traits across space is a cline) like height, skin color, blood type etc. However, clines do not covary and are also not highly correlated to each other (Segall, 2002). For example, humans could be classified in a variety of ways by eye color, height, income, religion, etc or by their average concentration of melanin (skin color), yet Segall (2002) argues that if humans were categorized based on genetic markers, treated as *races* there would more *races* than living humans. Since culture traits are learned, ethnicity or ethnic traits are transmissible to others, however associating physical features in the definition of ethnic identity fails to reflect the increasing physical heterogeneity of people in many parts of the world (Smedley & Smedley, 2005). Thus, although humans can be divided by 'race,' or 'ethnicity' the continuous diversity makes the boundaries arbitrary and generally unclear where one 'race' ends and the other begins (Segall, 2002).

Racial Conceptualization

Morning (2011) uses the term *racial conceptualization* to refer to a group of beliefs that an individual holds about race, which extends beyond a precise definition of *race* to include other, more abstract dimensions. Presently, a dichotomy exists in the scientific community when conceptualizing race which includes essentialist approaches (members of a group share inherent, innate, or fixed qualities and that inherited and immutable physical or psychological differences exist between racial groups) and constructivist approaches (categories are artificial or human made through a process of social construction, that do not necessarily reflect reality, independent

of human action, but are a product of social life) (Morning, 2011). Moreover, Morning (2011) cautions against equating ‘real’ with ‘biology’—that biology represents reality whereas social facts do not, because it fails to accurately represent the debate surrounding race.

Different scientific fields have conceptualized *race* in a variety of ways. Sociologists collect information about race relations, discrimination, classification, identity, but not racial conceptualization. Alternatively, anthropologists, historians, and political scientists often focus on public, widely shared, representations of *race* (Morning, 2011). On the other hand, psychologists seek to understand racial conceptualization through theoretical operations like prejudice, stereotyping, ingroup bias and categorization; *race*, then, becomes a cognitively interesting form of social categorization (Morning, 2011). In the biomedical field multiple, often conflicting, understandings of *race* circulate, with some arguing it has no genetic meaning, others that a 5 to 6 percent genetic difference is biologically meaningful, and others avoiding the debate by substituting ethnicity for *race* (Morning, 2011). Variation in approaches also corresponds to different methods for measuring *race*, for example in biomedicine *race* tends to focus on population substructure (homogenous sub-clusters within a larger population) whereas social scientists tend to operationalize *race* as a social construct and embodied experience (Benn Torres, 2020).

Many social and biological scientists also do not focus on *race* in their research, but include it as a variable anyways, without considering its origins or significance. They may rely on *race* as a variable without defining the concept, what group categories represent, or why it is meaningful to the study (Morning, 2011). Thus, a confused middle ground exists which includes a majority of public health, medical professionals and physical anthropologists; the ‘soft’ use of race by that group legitimizes the ‘hard’ use by scientific racists and essentialists (Morning,

2011). Presently variations in the approach to conceptualizing *race* have implications for people with psychological diagnoses specifically because they rely on social scientists for therapy as well as the medical community for medication.

Race has also been historically contingent on social construction that refers to a list of physical attributes (Richeson & Sommers, 2016; Roberts et al., 2020); in fact, physiognomy cues shape racial categorization, but they do so in concert with social norms and conventions (Richeson & Sommers, 2016). It has been found that lay people in the USA rely primarily on physical features to identify *races*, but they can be grouped in a variety of ways; physical appearance is caused by genetics, thus *race* must have a genetic basis; but, non-physical traits are caused by factors outside of genes; so racial hierarchies are not necessarily due to genetics (Morning, 2011). Although Morning (2011) cautions that additional data is needed to draw firm conclusions about the generalizability of racial conceptualization in the USA. Richeson and Sommers (2016) provide examples of Irish, Italian, and Jewish Americans who until the 20th century were considered non-White; alternatively, in the USA, Arab Americans were considered White until the World Trade Center attacks after which they were categorized as non-White. Other demographic cues like, socioeconomic status or incarceration, can shape racial categorization as well. For example, knowing that a woman is receiving financial assistance from the government made it more likely that she would be categorized as Black instead of White (Richeson & Sommers, 2016).

The growing number of people who identify as multiracial has also complicated racial categorization, specifically Richeson and Sommers (2016) find that the category of ‘biracial’ in the USA reifies a biological understanding of *race* because it assumes that two biologically meaningful parental racial categories are passed down to biracial children and prioritizes biology

instead of the various cultural factors that produce racial identity. Segall (2002) furthers this point, claiming that the illusion of *race* has become so compelling and widely held that, treating the social construct of *race* as a biological reality is in and of itself racist and that continued use of the term *race* reinforces intergroup conflicts.

Furthermore, as a species humans are genetically similar to each other despite variations in phenotype (Benn Torres, 2020). Humans are 99,9% alike (Smedley & Smedley, 2005) and 85-90% of the variation in the human species occurs within populations whereas about 10-15% of the genetic variation is found between populations. Because more variation is found within instead of between populations, and variation is continuous across geographic space, biologically distinct groups or racial groups do not accurately characterize human genetic variation (Benn Torres, 2020; Segall, 2002). Kaplan (2011) finds that populations corresponding to historical continental groups are biologically real in that they do differ in average gene frequencies from each other, yet many other populations both larger and smaller than those groups also differ in average gene frequency, nothing makes the former difference more meaningful than the latter (Kaplan, 2011).

Although Risch et al. (2002) argue otherwise, stating that genetic analysis has “vindicated the biological meaningfulness of traditional folk-racial categories” particularly because by testing genetic markers people can be assigned almost unambiguously to groups or to a particular admixture among groups (Risch et al., 2002). They used data from 5 major continental groups and 14 indigenous populations from 5 continents for the study. In addressing Risch et al. (2002), critiques were made regarding the population sample, in that, if the population sample was truly random then coherent results become unlikely (Kaplan, 2011). For example, if data were taken from native Icelanders, New Zealand Maoris and Mayans, three distinct clusters could appear in

the data; which based on Risch et al.'s (2002) assertion, would imply that 3 major populations or races exist and for people outside the sampling regime, ancestry could be calculated from admixture of the 3 clusters. However, the analysis would not imply that everyone in the world is a mix of Icelanders, New Zealand Maoris and Mayans, just as Risch et al.'s study does not demonstrate 5 continental groups or that population differences are basic or fundamental; instead, the patterns found depend on the genetic data as well as the researcher's own interests (Kaplan, 2011).

Chapter 1: Summary

Race and *ethnicity* have been used interchangeably in a variety of research studies (Roberts et al., 2020). Ultimately a lively debate exists in the scientific community regarding the utility of *race* with some researchers arguing that biological differences exist between *races* (Risch et al., 2002) others claiming that *race* is a social construct (Smedley & Smedley, 2005) and yet others claiming the social construct of *race* is becoming biology (Gravlee, 2009). *Race* exists as both a scientific inquiry and an item of everyday folk knowledge (Morning, 2011). Thus, care must be taken when considering *race* in psychological studies because it may reflect a conceptualization that varies over time, from researcher to researcher and person to person; perhaps other variables like experiences of discrimination or racism can more aptly apply *race* as a useful tool (DeWolfe et al., 2021).

Chapter 2: Racism and Its Effects

The term racism has begun to describe “virtually anything having to do with racial conflict” (Bowser, 2017). Other definitions define racism as a set of “beliefs, attitudes, institutional arrangements and acts that tend to denigrate individuals or groups because of their race or ethnicity” (Clark, 2001); alternatively, other definitions state racism is discrimination stemming from the belief that people should receive different treatment due to phenotypic differences (De Maynard, 2009). Despite competing definitions of racism, they include discrimination in some form although the modes can vary: cultural, institutional/structural, interpersonal and internalized (Ben-Cheikh et al., 2021; Bowser, 2017; Misra et al., 2022). Together the different types of racism reinforce each other. Cultural racism precedes and preconditions institutional expressions of racism and is passed across generations as part of the White racial identity; institutional racism preconditions individual expressions of racism and keeps racism going across generations which reinforces cultural racism (Bowser, 2017). Individual acts of racism are also guided by cultural racism in that it regulates the intensity and frequency of the individuals’ racist behaviours (Bowser, 2017).

In societies that racial categorization occurs, common ideologies appear like beliefs about human differences; as a result, *race* appears as an ideology or worldview that becomes explicitly enacted in social policy (Smedley & Smedley, 2005). Specifically, Smedley and Smedley (2005) find that in historical and sociological studies, six different ideological characteristics of race-based societies arise. First, race-based societies perceive racial groups as biologically discrete and exclusive groups based on certain physical characteristics. Second, *races* are unequal and must be ranked hierarchically. Third, in race-based societies, they assume that *race* has distinctive cultural behaviours linked to biology. Fourth, they hold that both physical features

and behaviours are innate and inherited. Fifth, they assume that racial differences are profound and unalterable. Sixth, the legal and social system stipulates racial classifications.

Ultimately the physical features and connotations regarding differences are not the direct causes of racism and discrimination; instead, the culturally invented beliefs about the differences create the meaning of race and thus racism (Smedley & Smedley, 2005). Using the USA as an example, White colonists promoted the folk idea of *race* and naturalists in Europe attempted to confirm folk beliefs about human differences by examining the bodies of people from different racial categories (Smedley & Smedley, 2005); thus, the folk categories started to become scientifically justified based on racial ideologies. Folk categories of *race* also had economic value in the USA. The economics of slavery supported an essentialized racial conceptualization with the ‘one-drop’ belief that ‘one drop’ of black blood made someone Black; moreover, equating European ancestry with full citizenship and African ancestry with slavery reified a racialized binary (Morning, 2011). Through a constructionist lens, racial classification occurs as a tool of power that establishes a social hierarchy and elevates some people at the expense of others. Essentialist views of *race* can also promote racism in which biological differences are found between races and hierarchically interpreted, like eugenics (Morning, 2011).

Essentialism has been linked to prejudice, in particular because individuals who hold essentialist beliefs have a stronger preference for stereotype-consistent information and are more likely to support stereotypes; however, strategic essentialism has at times been used by minority or stigmatized groups to promote egalitarian social change for example by female policy makers in the USA trying to gain attention for women’s health concerns (Morning, 2011). Interestingly, one study focused on scientists’ racial conceptualization in the late 1990s in the USA, women were more likely than men to reject the idea of biological races, which could reflect the

association between marginalized social status and the tendency to reject biological determinism; age cohort also influences racial conceptualization due to exposure to particular understandings of race and the context (Morning, 2011). Physical anthropologists also often supported essentialized “race-as-biology” paradigms, and racist scholarly work explicitly classified humans through biology and culture; then, researchers hierarchically arranged people in socio-evolutionary terms (Benn Torres, 2020). Alternatively, antiracist work tended to implicate social and environmental factors as influential in shaping human variation (Benn Torres, 2020). In the field of psychology, systemic inequality exists within psychological research (Roberts et al., 2020); yet structural racism in psychiatry has received little recognition and sluggish action by the American Psychological Association has perpetuated racism (Ben-Cheikh et al., 2021). In particular, Ben-Cheikh et al., 2021, suggest that the role of colonial pseudoscience, rooted in structural racism, needs to be recognized by focusing on the intersection of scientific racism, colonialism and political misuse of psychiatry which are the historical roots of present-day psychiatry (Ben-Cheikh et al., 2021).

Institutional Racism

Institutional racism generally occurs through formal and informal policies that deny equal treatment of people (Clark, 2001) and may be an ‘unconscious process’ in which people may not think they are racist (Blackwell, 2021). Institutional racism can have economic consequences for the individual, in particular, skin tone has been found to affect hiring decisions and research has demonstrated that light-skinned Black individuals performed better economically and educationally than people with darker skin tones (De Maynard, 2009; DeTore et al., 2023). Moreover, in the USA Black individuals tend to have lower educational attainment than White individuals (30.8 percent compared to 47.1 percent earned an Associate’s degree, respectively)

(DeTore et al., 2023). Institutional racism also appears in denying home loans and charging higher interest rates to Black individuals, maintaining racially segregated schools by using unequal home values as the basis for school funding and using seniority as the basis for employment (Black individuals are the last hired and the first fired) (Bowser, 2017). Moreover, among microaggressions that represent subtle racist experiences, the most frequently occurring types were those embedded in the structural environment (Anglin & Lui, 2023).

Colorblind approaches, which seek to ignore race, claim that by ignoring race there can be no discrimination; however, such approaches still manage to discriminate by endorsing public policies that have racially discriminatory outcomes (Bowser, 2017). Alternatively other approaches like multiculturalism recognize racial differences and assume that individuals and institutions want to be egalitarian and would address biases if aware of them (Apfelbaum et al., 2017). In comparing preferences for a colorblind approach to race or a multicultural approach, Apfelbaum et al. (2017) introduced a new construct called perceived intentionality of racial discrimination (PIRD). Findings from the study indicate that when there is greater PIRD, colorblindness is endorsed more than multiculturalism (Apfelbaum et al., 2017); which Apfelbaum et al. (2017) posit arises from individual's beliefs that if discrimination stems from ignorance and a lack of awareness then multiculturalism offers the best way of minimizing discrimination. Furthermore, perceived intentionality of discrimination may indicate to participants whether actors and institutions are receptive to learning about diversity and racial discrimination or not. The intentionality of discrimination also influenced participants when they considered punishment severity for the perpetrator of discrimination (Apfelbaum et al., 2017).

Institutional racism requires institutions to reinforce and maintain White racial advantage, thus, institutions that fail to uphold the racial hierarchy will face progressive devaluation and

eventual replacement by alternatives that preserve White advantages (Bowser, 2017). Bowser (2017) presents charter schools in the USA as an example of institutional abandonment. Specifically, when Black students become the majority and begin succeeding in public schools, the schools will progressively receive less funding until they are forced to close or privatize; thus ensuring that the racial hierarchy remains intact.

White individuals in the USA have begun to increasingly perceive themselves as victims of racial bias, which has implications for affirmative action programs (Wilkins et al., 2013). Particularly, Wilkins et al. (2013) found that when status legitimizing beliefs (i.e., perceptions of system legitimacy—perceiving the system as fair; permeability—perception that all individuals can advance socially; and protestant work ethic—hard work is rewarded) are activated for White individuals, they are more likely to respond positively and help other White individuals who claim discrimination. However, high endorsement of status legitimizing beliefs corresponds to negative reactions to minority members' discrimination claims and positive reactions to majority members' discrimination claims (Wilkins et al., 2013). Thus, when considered through the lens of institutional racism, White individuals' system-justifying beliefs serve a group-justifying function (Wilkins et al., 2013) and help maintain the racialized hierarchical structure.

Once the idea of a racial hierarchy starts it is permanent (Bowser, 2017), as is the case in Cuba which provides strong evidence for this claim due to its unique history. In particular, after the 1954 revolution a new government passed laws to stop institutional racism, after 60 years and three new generations inequalities continue to appear for Black individuals, specifically in education and tourism. Whereas the assumption is that if institutional racism stops for several generations, cultural racism will eventually disappear, Bowser (2017) argues that this is not necessarily true. In fact, racism has become entrenched in the society despite the institutional

changes and the passing generations, suggesting that ending racism will require more than changing institutions and generations.

Interpersonal & Intrapersonal Racism

At the individual level, “racialized experiences that differ both between and within groups can give rise to racial differences in psychology” (Roberts et al., 2020), interpersonal racism occurs between two or more individuals through racially motivated assaults and discrimination. Racism may become directed at the self; through intrapersonal racism the subject begins to internalize negative stereotypes and beliefs. Racialized beliefs are perpetuated from childhood (for example, White children in the USA experience racial discrimination less often and their parents speak with them less about *race* than do Black and minority parents (Roberts et al., 2020)). Research has also shown that from birth infants can differentiate between various *races*; however without exposure to diverse people at just three months old the child has more difficulty differentiating among individuals of unfamiliar *races* (Perrachione et al., 2010 and Quinn et al., 2019 as cited by Roberts et al., 2020).

There is also evidence that in-group and out-group thinking may arise from health concerns and may function as protection for the individual from the threat of infection (Bressan 2020; Kramer & Bressan, 2021). For humans, the behavioural immune system has evolved to pay outgroups more attention because they may carry pathogens that are new and more dangerous to the individual (Bressan, 2020). People who look different from the individual are more likely to come from somewhere else with different exposure to pathogens (Bressan, 2020); so in-group and out-group categorization may benefit the individual and occur as a process to keep the individual free from the threat of infection; a process which begins from infancy as Roberts et al. (2020) reported. Believing that people from other races are different from the

group can decrease an individual's willingness to engage with others (Morning, 2011) whereas, identifying with a group can help minority members feel safer. In particular, expectations that others have faced similar stereotypes and similar amounts of bias promoted Black women's identification with others in the workplace (Lewis et al., 2023); a similar finding was also found for White women in that viewing outgroup members as holding fewer negative stereotypes helped buffer against identity threats (Chaney et al., 2018). Identifying with others in the workplace and believing others had positive stereotypes about one's ingroup was also associated with belonging, trust and attraction to an organization (Lewis et al., 2023).

On the other hand, limited exposure to people of different races and cultures spurs a lack of developed racial identity as well as a fear of people of other races (Perrin, 2013); guilt and shame are some of the other negative consequences of racism for the perpetrator (Perrin, 2013). Thinking about racism as an individual phenomenon and not an institutional phenomenon may buffer White individual's self-image, in that White people may be motivated to maintain their positive self-image and thus may consider minorities who encounter the occasional bigot unlucky instead of considering the ways they themselves benefit from White privilege (Unzeuta & Lowery, 2008) alternatively, by acknowledging racism or racist beliefs the perpetrators may feel guilt and shame (Perrin, 2013). Burns et al. (2017) attempted to reduce stereotyping and discrimination through counterstereotype training. They defined counterstereotypes as "words that represent the opposite of stereotypes" (Burns et al., 2017) and found that participants in the counterstereotype group showed lower implicit bias scores than the control and stereotype warning condition. Overall, training participants to associate Black individuals with positive words altered automatic associations, however it did not reduce the application of negative stereotypes regarding Black individuals (Burns et al., 2017). Alternatively, activating the

participant's motivation to self-regulate, which was measured through negative self-directed affect, was associated with the reduced application of stereotypes (Burns et al., 2017); thus, making individuals both aware of their biases and aware of the conflict with their personal beliefs results in feelings of self-directed guilt and disappointment which then encourages the individual to better monitor their biased behaviours.

Acts of racism also occur in more ambiguous ways through microaggressions and micro-invalidations. Microaggressions (brief daily verbal, behavioural and environmental indignities that communicate hostile, derogatory, or negative racial slights), micro-invalidations (communications that exclude, negate, or nullify the psychological thoughts, feelings, or experiences of members of marginalized groups), micro-assaults (verbal and nonverbal attacks intended to hurt a target through name-calling, avoidant behaviour, or purposeful discriminatory actions) have been associated with trauma-related symptoms for minorities (Johnson et al., 2021). Moreover, racial microaggressions that require dealing with ambiguity and the subtlety of the act, has been associated with a similar and sometimes larger mental and physical health responses than overt discrimination (Anglin, 2023).

Cultural Racism

Racism occurs as a cultural script through institutional and individual levels of social organization and is transmitted through distinct norms, attitudes, beliefs, values and worldviews (Bowser, 2017). Although racism manifests differently in various cultures (Schmitt et al., 2017) based on each society's unique history, racism appears throughout the world. For instance, racism in Russia arises from a Soviet national binarism combined with western racial discourses where Russians are both colonizers and the colonized (Schmitt et al., 2017) in Italy a similar

phenomenon occurs in which Italian Punjabis are both victims of racism yet also racialize others and devalue Black individuals (Schmitt et al., 2017).

In some cultures the distinction between racism and colorism may blend and reinforce each other, although colorism has been defined as a social hierarchy based on gradations in skin tone within and between racial/ethnic groups (Bettache, 2020). According to Harvey et al. (2007) one of the important distinctions between racism and colorism is that racism exists as an intergroup phenomenon and ultimately involves comparison between two or more racialized groups, alternatively colorism occurs as an intragroup phenomenon with biases toward lighter skin within groups instead of between them. However, bias can be found inside or outside of the focal group, thus Harvey et al. (2007) argue that racism and colorism do not necessarily depend on each other to exist. The origins of colorism in Asia (a preference for fair skin that appears across the continent) may have arisen from classism and not colonialism like in western countries (Bettache, 2020; Kim, 2020). Historically during the 7th/8th century colorism began with the rise of the Arab Empire's pseudoscience regarding sub-Saharan Black individuals (Bettache, 2020). Today, colorism is a widely taboo issue in Asian countries (Bettache, 2020); however, research regarding colorism in western and eastern countries finds colorism comparable to racism with regard to its effect on between-group perceptions (Bettache, 2020). For example, in South Korea the government created a multicultural racial category, which actually reinforced in-group and out-group thinking and the cultural hierarchy between Koreans and non-Koreans (Kim, 2020). Schools also reinforce racialized thinking with curriculum that presents Koreans as "ethnically homogeneous" with privileges and unearned advantages given based on physical appearance and "Koreanness" (Kim, 2020).

Alternatively, scientific racism in Europe helps explain the contemporary issues in Poland (Balogun, 2020), specifically because everyday biological practices constantly reproduce an in-group and out-group dynamic. With regard to immigrants in Poland, non-White immigrants are considered “another type” of identity that is assumed to deeply contradict the national identity, particularly because “Polish-centrism” arises from a racialized logic that filters through whiteness, Europeanness and Polishness (Balogun, 2020). Physiognomic features reinforce perceived racial differences; the racism in Poland also reflects African countries’ historic marginalization (Balogun, 2020).

In the United Kingdom, racial minorities are at a heightened risk of experiencing emotional stress due to racial discrimination, adversity and socio-political pressures; moreover, the subjective experience of racism underpins social disadvantages and deprivation experienced by minorities and Black individuals in the UK (De Maynard, 2009). Discrimination occurs in schools in the UK and first entered public debate in the 1950s and 60s due to increased efforts to control immigration especially from India, Pakistan, Bangladesh and the Caribbean (Gillborn, 1997). The problems associated with discrimination persisted in education. Studies from the 1980s found a connection between socioeconomic status and achievement and that on average Black students scored lower than White or Asian students (Gillborn, 1997). Even with school reforms, the gap between Black students and other groups continued to grow, and the first qualitative studies found that Black students were frequently portrayed negatively and were more likely to be sent to separate schools that focused on students with emotional, learning and/or behavioural problems (Gillborn, 1997). Within the ethnic minority community in the UK, one in five people worry about race-related incidents and racialized bullying and approximately 39

percent of Black individuals believe that they were denied employment because of their race (De Maynard, 2009).

The USA has an incredibly long history with racism and discrimination against minorities and Black individuals. One study evaluated lay theories of racism and found that lay theories endorse blatant, old-fashioned racism as the prototype (Sommers & Norton, 2006). However, in Sommers and Norton's (2006) study the individuals who were the most likely to think racist thoughts and to act racist were also the least likely to consider the behaviours racist. Moreover, White individuals were less likely to identify subtle racism than non-White participants (Sommers & Norton, 2006). Unzueta and Lowery (2008) discovered that the desire to maintain a positive self-image motivated White individuals in the USA to consider racism an issue rooted in individuals and not institutions. Considering institutional racism causes White individuals to also acknowledge White privilege and the possibility that their personal success cannot be attributed to internal characteristics but instead to external, unfair advantages; alternatively, conceptualizing racism as an individual phenomenon may buffer White individuals from acknowledging the ways they benefit from racial inequality (Unzueta & Lowery, 2008). The implications of Unzueta and Lowery's (2008) findings indicate that White individuals who consider racism an individual phenomenon instead of institutional, are more likely to support diversity management programs to change attitudes and beliefs instead of institutional measures like affirmative action.

Effects of Racism: Health Outcomes

Experiences of racism and discrimination have multiple downstream effects including sociodemographic disadvantages, higher levels of social isolation, lower levels of employment (DeTore et al., 2023), avoidance of treatment and avoidance of personal relationships

(Bommersbach et al., 2023). Ultimately, the effects of racism are also cumulative (Perrin, 2013) and have also been associated with lowered self-esteem, greater levels of depression and anxiety and poorer physical health (Amato et al., 2021; Ajilore & Thames, 2020; Ben-Cheikh et al., 2021; Bommersbach et al., 2023; Devakumar et al., 2020; Johnson et al., 2021; Misra et al., 2022; Perrin, 2013).

Perceiving discrimination has been negatively associated with well-being and actually has a causal effect (specifically for psychological distress and negative affect although weaker effects were found for self-esteem, life satisfaction and positive affect) (Schmitt et al., 2014). Perceptions of discrimination also negatively predicted future well-being which compounds the finding that higher levels of perceived discrimination led to worse psychological well-being (Schmitt et al., 2014). Compared to adults, for children, the effect of perceived racism was stronger on psychological distress (Schmitt et al., 2014). Individualized discrimination was also more harmful to well-being than discrimination directed at the entire group; however, research has been mixed regarding the group identification with some studies showing that it protects against discrimination and others showing that group identification can make discrimination perceptions more harmful (Schmitt et al., 2014).

In the USA, Black individuals disproportionately account for 45 percent of vascular-related diseases and are 37 percent more likely to develop lung cancer than Whites, despite lower exposure to cigarette smoke (Ajilore & Thames, 2020). Disparities exist in other countries as well, with Black individuals experiencing a fourfold increase in COVID-19 hospitalizations compared to White individuals—a finding what remained true after controlling economic and physiological factors (Ajilore & Thames, 2020). Experiences of racism and discrimination have explained more than 50 percent of Black-White differences in immunity, particularly called the

Conserved Transcriptional Response to Adversity—a pattern of transcriptional alterations activated by chronic low-grade activation of the sympathetic nervous system (Ajilore & Thames, 2020). Thus, experiencing racism and discrimination may alter immunity and promote inflammatory responses (Ajilore & Thames, 2020); inequalities in access to public health services for Black individuals compounds the situation as well.

Chapter 2: Summary

Throughout the world racism exists, although the origins vary by country and historical context. Racism has been described as the epitome of a “wicked” problem in that it is exceptionally complex and highly resistant to solutions, making it exceedingly difficult to solve (Came & Griffith, 2018; Rittel & Webber, 1983). Discrimination appears through cultural means, institutions and through individuals, however at times it may also occur ambiguously through microaggressions and micro-invalidations. Evidence has shown experiences of discrimination and racism are linked to negative health outcomes (Amato et al., 2021; Ajilore & Thames, 2020; Ben-Cheikh et al., 2021; Bommersbach et al., 2023; Devakumar et al., 2020; Johnson et al., 2021; Misra et al., 2022; Perrin, 2013), with one researcher claiming that “racism is evident only in the outcomes” (Bowser et al., 2017). Considering discrimination and racism as the cultural and institutional backdrop becomes paramount for accurately assessing the psychological harms to the individual as well as the powerful role of the clinician in understanding racism and helping individuals cope and recover.

Chapter 3: Diagnostic Criteria, Rates of Diagnosis & Risk Factors

Both the ICD-11 and DSM-5 are important tools for clinicians to accurately diagnose schizophrenia and other psychotic disorders (Gaebel et al., 2020; Tandon et al., 2013) and over time both diagnostic manuals have incorporated existing scientific research to more accurately diagnose disorders. Whereas the ICD has focused primarily on the clinical utility of diagnostic categories, the DSM has mainly been guided by concerns about construct validity (Luciano et al., 2020). Clinical utility allows clinicians to identify the best diagnostic category for each patient and should provide useful information to the disease's treatment and management. For example, in the newest iterations of the ICD and DSM, the schizophrenia subtypes have been removed due to their utility, or lack thereof, in the field (Gaebel et al., 2020; Tandon et al., 2013).

ICD-10 and ICD-11

The ICD-11 lists Schizophrenia and Other Primary Psychotic Disorders in the same subchapter, a change from the ICD-10 which listed Schizophrenia, Schizotypal and Delusional Disorders together. Some of the key features in the ICD-11 subchapter include: significant impairments in reality testing and alterations in behaviour that manifest in positive symptoms like: persistent delusions, persistent hallucinations, disorganized thinking (typically manifested as disorganized speech), grossly disorganized behaviour, experiences of passivity and control. Alternatively, the negative symptoms included are blunted or flat affect, avolition and psychomotor disturbances (Gaebel et al., 2020). The dimensional symptom qualifiers, which allow for a more precise and individual description of illness presentation, fall into six symptom domains: *positive symptoms*, *negative symptoms*, *depressive mood symptoms*, *manic mood symptoms*, *psychomotor symptoms*, *cognitive symptoms* (Gaebel et al., 2020). The domain symptoms are as follows:

Positive symptoms: hallucinations, delusions, disorganized thinking, disorganized

behaviour and experiences of passivity and control;

Negative symptoms: alogia, limited affect, avolition, anhedonia, asociality;

Depressive mood symptoms: depressed mood and related symptoms;

Manic mood symptoms: elevated, irritable or expansive mood and increase in energy;

Psychomotor symptoms: psychomotor agitation, psychomotor retardation and catatonic symptoms;

Cognitive symptoms: deficits in speed of processing, attention/concentration, orientation, judgment, abstraction, verbal or visual learning and working memory (Gaebel et al., 2020).

Regarding schizophrenia, the ICD-11 has eliminated the subtypes for the diagnosis and instead focuses on the longitudinal (first episode, multiple episodes and continuous course) and cross-sectional course (current symptomology as currently symptomatic, in partial remission or full remission) of the diagnosis (Gaebel et al., 2020). First rank symptoms have also been deemphasized in favor of core symptoms like persistent delusions, persistent hallucinations, thought disorder and experiences of influence, passivity or control which have been present for at least one month (Gaebel et al., 2020). Diagnostic criteria have strengthened the boundary between schizophrenia and schizoaffective disorder, with the latter meeting the criteria for schizophrenia and simultaneously the criteria for a manic, mixed, moderate or severe depressive episode (Gaebel et al., 2020). Recent field studies have provided evidence for the reliability and perceived clinical utility of diagnostic categories in the ICD-11 Schizophrenia or Other Primary Psychotic Disorders subchapter (Gaebel et al., 2020; Luciano et al., 2020); for example, results

from the Italian field studies highlight that the ICD-11 holds utility, in that the joint rater agreement (intra-class kappa) was 0.85 for schizophrenia diagnoses.

DSM-IV and DSM-5

The DSM-IV definition of schizophrenia has demonstrated reliability, validity and clinical meaningfulness, however clinical manifestations are extremely diverse (Tandon et al., 2013) and there are no well-established biological tests for the disorder (Bhati, 2013). There is an emphasis on avolition, chronicity and poor outcome as well as positive symptoms and reality distortion; however, in previous iterations of the DSM the broad symptomology was associated with a discrepancy between the diagnosis of schizophrenia in the USA versus Europe (Tandon et al., 2013). Regarding validity, antecedent (familial aggregation, environmental risk factors) and predictive (diagnostic stability, course of illness, treatment response) validators support the diagnosis, although biological markers are less robust (Tandon et al., 2013). High diagnostic stability for schizophrenia has also been found, with 80-90% of individuals retaining their diagnosis for 1-10 years after the initial diagnosis (Tandon et al., 2013) and clinical field trials using the updated DSM-5 diagnostic criteria for schizophrenia have demonstrated a “good” inter-rater reliability with intra class kappa statistics of 0.46 (with coefficients of 0.8 and above representing excellent inter-rater reliability) (Bhati, 2013). However, the heterogeneity of schizophrenia remains poorly explained by the four subtypes (paranoid, catatonic, disorganized, undifferentiated). Additionally, the subtypes were rarely diagnosed by clinicians, had low diagnostic stability and did not exhibit distinctive patterns of treatment response or longitudinal course; ultimately subtypes were removed from the DSM-5 (Tandon et al., 2013) and presently a spectrum is used for schizophrenia and related psychotic disorders (Bhati, 2013).

Changes in the DSM-5 regarding the diagnostic criteria for schizoaffective disorder and major mood disorders affect the boundaries with schizophrenia as well. For example, significant mood symptoms have to be present for a majority of the duration of the psychotic illness for a schizoaffective disorder diagnosis and not a diagnosis of schizophrenia (Tandon et al., 2013). Schizophrenia is likely a conglomerate of multiple disorders, due to the absence of clear boundaries around the condition and the multiplicity of etiological factors and pathophysiological mechanisms (Tandon et al., 2013); specifically, a significant proportion of people with mental disorders meet the criteria for two or more diagnoses at the same time (Luciano et al., 2020). Luciano et al. (2020) argue that it may be that disorders represent different aspects of the same underlying condition, thus multiple diagnoses may be considered a consequence of the current classification systems and not a true comorbidity issue. Some features like cognitive deficits have not been sufficiently distinguished between schizophrenia and other boundary disorders and thus were not included in the diagnostic criteria for schizophrenia (Tandon et al., 2013).

There are six criteria included for a schizophrenia diagnosis in the DSM-5, the characteristic symptoms include: delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behaviour, negative symptoms (i.e., diminished emotional expression or avolition). Because schizophrenia is conceptualized as a psychotic disorder, at least one core positive symptom like delusions, hallucinations and disorganized speech is necessary for a reliable diagnosis of schizophrenia (Tandon et al., 2013). Significant variability exists in the course of schizophrenia, thus in order to successfully characterize clinically relevant course variants, both the current state (cross-sectional specifier) as well as the longitudinal pattern (longitudinal specifier) for the client require consideration (Tandon et al., 2013). Cross-sectional

specifiers include active-phase criteria, specifically: presently in episode, in partial or complete remission, or a continuous state of disorder. Whereas, longitudinal specifiers consider the longitudinal pattern of the illness for the individual and characterize the disorder as episodic or continuous (Tandon et al., 2013).

Schizophrenia Diagnoses

According to different studies about 1-2% of the population is affected by psychotic disorders (Ferrari et al., 2015; Janoutová et al., 2016), although other studies have reported different incidence rates (the number of new cases per population per year) and prevalence rates (proportion of surviving individuals who manifest the disorder at a given time) with variation across places and studies (McGrath et al., 2008). McGrath et al. (2008) compared incidence rates from 383 studies published in 32 different countries and prevalence rates from 46 countries. The average lifetime prevalence estimates were 4 per 1,000 (McGrath et al., 2008), however the incidence of the disorder shows more prominent variation between sites with the median estimate at 15.2 per 100,000 and with the central 80 percent of the incidence distribution varying over a fivefold range (McGrath et al., 2008). In a prior study, McGrath et al. (2004) compared incidence rates in 33 different countries drawing data from 100 core studies, 24 migrant studies, 23 cohort studies and 14 studies based on other groups (twins, the deaf, religious and ethnic groups and people aged 65 and above). Rates of schizophrenia were generally higher for males than females and the magnitude of the difference was generally consistent across studies. Higher incidence rates also appeared in urban areas as compared to mixed urban/rural catchment areas, however due to the small number of rates for rural catchment areas in the studies more precise comparisons were not made between urban and rural incidence rates (McGrath et al., 2004). Migrant groups showed higher incidence rates across studies as compared to native-born

populations (Ferrari et al., 2015; McGrath et al., 2004; McGrath et al., 2008). However, regarding migrant studies, McGrath et al. (2008) found that a range of methodological issues arise like differential pathways to care, diagnostic inaccuracies (language and cultural practices which may alter the diagnosis), confounding due to socioeconomic factors and problems in calculation of the prevalence and incidence estimates; thus, determining the true incidence and prevalence rates of schizophrenia for migrants presents a challenge in research studies.

Schizophrenia Diagnoses: the USA, the UK and the Netherlands

Another trend to appear in schizophrenia diagnoses are reports of higher rates of schizophrenia for Black individuals as compared to White individuals. Specifically, higher diagnostic rates have been found for Black individuals compared to White individuals in the USA (Anglin & Lui, 2023; Hampton, 2007; Nagendra et al., 2022), the UK (Fung et al., 2009) and the Netherlands (Anglin, 2023).

In the USA significant disparities between Black and White individuals exist in the diagnosis of schizophrenia (Anglin & Lui, 2023; Hampton, 2007; Gordon et al., 2023; Rakhshan Rouhakhtar et al., 2023; Schwartz & Blankenship, 2014) with Black individuals about 24 times more likely to receive a schizophrenia-spectrum diagnosis than Whites (Schwartz et al., 2019). Other studies have found greater disparities, Schwartz and Blankenship (2014) reported that Black individuals show on average a three to four times higher rate of psychotic disorder diagnoses. Alternatively, White individuals in the USA are more likely to receive an affective diagnosis like bipolar disorder or major depressive disorder, instead of a schizophrenia-spectrum diagnosis (Schwartz et al., 2019). Numerous reports have also identified disproportionate rates of hospitalization for Black individuals, a finding which is associated with the overrepresentation of Black individuals in psychiatric hospitals (Barnes, 2013). The length of stay in a psychiatric

facility also places individuals at increased odds for a psychotic disorder diagnosis (Schwartz & Blankenship, 2014); thus, if Black individuals are disproportionately hospitalized and the length of stay in a hospital is associated with increased odds of a psychotic disorder, it follows that Black individuals will be disproportionately diagnosed with schizophrenia. In fact, Black clients are 2 to 5 times more likely than White individuals to be admitted into a psychiatric hospital with a schizophrenia diagnosis in the USA (Barnes, 2013).

Racialized disparities in schizophrenia diagnoses have also been found in the UK. A diagnosis of schizophrenia for African-Caribbeans is 12 times higher than for the general population (Fung et al., 2009), other studies suggest that visibly Black individuals are 2-5 times more likely to be diagnosed with schizophrenia and psychosis than other ethnic minorities in the UK (De Maynard, 2009). Fung et al. (2009) investigated the discrepancies in the incidence rates of schizophrenia by comparing rates in Jamaica, Trinidad, Barbados and the UK. Findings from the study suggested that incidence rates from the Caribbean countries were similar to rates found for White individuals in the UK (Fung et al., 2009); thus, if the incidence rates are similar in each country, higher incidence rates for African-Caribbeans living in the UK suggests that other environmental factors affect the incidence rates. Variation in the prevalence rates has also been shown for Caribbean migrants (14 per 1000) compared to White individuals (8 per 1000) (Fung et al., 2009). Other studies compared the morbid risk of schizophrenia among parents of African-Caribbeans and White probands with schizophrenia and found no difference in the risk; however, for the second-generation siblings of African-Caribbean subjects diagnosed with schizophrenia the risk was six times higher (24%) than in siblings of White individuals with schizophrenia. The low risk for the parents and the lack of evidence suggesting that rates of schizophrenia are generally higher in the Caribbean suggests that genetics alone does not fully explain the

variation. Although the frequency of adverse life events did not appear to vary between White and Black individuals in one study, African-Caribbean patients were more likely than White individuals to interpret events in the context of a continuous pattern of adversity towards them because of their ethnicity (McDonald & Murray, 2000). Furthermore, multiple studies have demonstrated that stressful life events often occur in the few weeks before the onset or relapse of schizophrenia, suggesting that social stress can precipitate the disorder (McDonald & Murray, 2000).

Disparities between non-Western immigrant groups (i.e., Black African groups from Morocco, Suriname and the Dutch Antilles) and White-Dutch individuals in schizophrenia diagnoses also appear in the Netherlands with higher rates found in minority groups (Anglin, 2023). Similarly, Veling et al. (2006) found that first generation non-western immigrants had a higher incidence rate of schizophrenia compared to Dutch natives and Western immigrants. For immigrants from non-western countries (Morocco, Surinam, Turkey, the Netherlands Antilles, among others) the incidence rate of schizophrenia was significantly higher for the second generation than for the first-generation immigrants (Veling et al., 2006).

Whereas other studies have reported high risks for Black immigrants, the highest risk obtained in the Veling et al.'s (2006) study was for non-Black minority members like Moroccan males. Specifically, Moroccan immigrants struggle more with acculturation into Dutch culture than Surinamese or Antillean immigrants, partly due to negative public perception, experiences of social defeat, acculturative stress, outsider status, marginalization, perceived discrimination and a weak ethnic identity which occurs across generations of immigrants (Veling et al., 2006). In the second iteration of data collection, Veling et al. (2006) included information about the patients' ethnicity so that the diagnosing psychiatrists could consider culturally based

phenomena that may be mistaken for psychopathology, the first-contact rate for schizophrenic disorders was 2.21 per 10,000 and 1.27 per 10,000 for immigrants and Dutch natives respectively. Treatment varied for Black and minority groups compared to others; mandated psychiatric hospital admissions were more frequently recommended for Black and minority groups than for White individuals and Dutch natives (Schwartz & Blankenship, 2014). Misunderstandings and or biases about symptomatology may help explain immigrants' increased risk of psychotic disorders diagnoses and hospital admission (Schwartz & Blankenship, 2014); yet Veling et al. (2006) reported that Moroccan women use medical services for assistance more than Dutch natives so at least for Moroccan women misunderstandings about symptomatology may not be accurate.

Demographic Risk Factors

Genes vs. Environment:

Debate exists regarding the role of genetics and the environment in susceptibility to schizophrenia, with some estimates suggesting that the lifetime risk of schizophrenia for the general population is 1 percent, compared to a 10 percent risk for individuals with first degree relatives diagnosed with schizophrenia, a 40 percent risk for identical twins, and up to a 48 percent lifetime risk for individuals who have two parents with the disorder (McDonald & Murray, 2000) yet, about 85 percent of individuals with schizophrenia have no first degree relatives with the illness (Mäki et al., 2005). Genetic factors and genetic loading (which is the genetic risk compared the general population) pose the greatest risk for schizophrenia (Häfner, 2019; Mäki et al., 2005), although the impact grows weaker with later onset; ultimately the disorder is not hereditary but instead influenced by a variety of risk factors (Häfner, 2019). For instance, psychosis, a core symptom of schizophrenia, has multiple factors that can cause it

ranging from intoxication to severe brain dysfunction to central lesions in multiple sclerosis to the early stages of Alzheimer's disease (Häfner, 2019); thus, even core symptoms of schizophrenia can occur from unique genetic and environmental risk factors. Ultimately, schizophrenia occurs from a complex interaction between genes and the environment that, as of yet, researchers do not fully understand, although genetic research has improved scientific understanding of the illness and its transmission; the causes of schizophrenia are still unknown. Moreover, recently researchers are coming to understand schizophrenia as a neurodevelopmental disorder although the course varies among clients, after several episodes it may resolve (Janoutová et al., 2016). About one third of clients may return to normal life (Janoutová et al., 2016).

Heritability measurements account for the proportion of liability of the disorder that is under genetic influence (McDonald & Murray, 2000), some estimates, derived from twin studies, range from 64 to 81 percent (Janoutová et al., 2016; Robinson & Bergen, 2021). Conversely, the genetic variants discovered through the Genome-wide association studies (GWAS), which include 270 single nucleotide polymorphisms that confer risk for schizophrenia, accounted for a smaller proportion of variance, 22 percent, than the twin studies estimated 80 percent heritability (Robinson & Bergen, 2021). One possible explanation for the different heritability estimates is that the GWAS does not take into account other genetic variants like copy number variants and rare genetic variants; alternatively, interactions between the genes and the environment may also explain the gap in heritability estimates (Robinson & Bergen, 2021). Other researchers have argued that for genes carrying a high risk for schizophrenia, they account for 2 percent of the total risk; moreover, the genes are also widespread in the general population (Häfner, 2019) further complicating the quest to determine the cause of schizophrenia.

Ultimately Mäki et al. (2005) find that heredity is not fate but instead probability and that the pattern of inheritance is complex, for example due to a genotype-environment interaction diseases can cluster in families not due directly to genetic effects but because family members are vulnerable to the risk-increasing effect of the local environmental risk factors. McDonald and Murray (2000) proposed that current models for schizophrenia need to consider the illness as a result of a genetic predisposition which is compounded by environmental effects. For example, certain individuals exposed to an environmental risk factor will have a high risk of developing schizophrenia whereas others with a different genotype will be at a low risk (McDonald & Murray, 2000); thus there is an interaction between genetic susceptibility and the environment. The interaction between genes and the environment may also explain a large portion of the schizophrenia cases because the group is more vulnerable to the effects of prenatal and postnatal environmental stressors and according to some estimations, about 15 to 40 percent of the risk for schizophrenia is derived from environmental factors (Pugliese et al., 2019). Risk genes for schizophrenia may be involved in susceptibility to the *Toxoplasma Gondii* parasite which is associated with an 80 percent increased odds of schizophrenia, which suggests that genetic susceptibility combined with exposure to infection increases risks for disorders (Robinson & Bergen, 2021).

Some researchers have also analyzed the connection between childhood adversity, psychotic disorders, and candidate genes. The brain derived neurotropic factor (BDNF) which promotes growth and differentiation of the neurons as well as synaptic plasticity has been shown to interact with childhood trauma and has been associated with schizophrenia spectrum disorders (Robinson & Bergen, 2021). Environmental exposures may shape the diagnoses that emerge for individuals with a high genetic risks of disorders; however, ultimately the heterogeneity among

samples, client outcomes, and exposure to environmental stressors has made determining the full extent of the environment's contribution to schizophrenia difficult and inconclusive (Robinson & Bergen, 2021).

Gender, Age & Socioeconomic Status:

Individuals with detectable biological risk factors have an earlier age of onset than others, which includes having relatives with a high morbid risk of schizophrenia, being exposed to obstetric complications, and demonstrated cognitive deficits in childhood (Häfner, 2019; McDonald & Murray, 2000). For males the peak incidence rate was between ages 20 to 24, with females showing peaks between ages 29 to 32 (Stilo & Murray, 2010). The mean age of onset is also later in females than in males (41.1 years vs 31.2 years) and although females and males tend to have similar incidence rates for mild schizophrenia, as the diagnostic criteria were narrowed the proportion of males to females changed, in that the illness tends to be more severe in males (Stilo & Murray, 2010). Moreover, an early age of onset often has a much more severe psychopathology compared to late-onset cases and an early age of onset is governed to a large extent by genetics as compared to late onset of schizophrenia which does not show the same pattern (Häfner, 2019). Some explanations, regarding the earlier onset for males, highlight the male brain's heightened susceptibility to neurodevelopmental disorders whereas females may have a spike after menopause due to the secondary loss of estrogen (Stilo & Murray, 2010).

Debate currently exists regarding the risk for schizophrenia by gender with multiple studies finding that the rate ratio for males to females was 1.4:1 (Janoutová et al., 2016). However, ultimately the lifetime risk seems to be the same across genders (Häfner, 2019), with females experiencing two peaks in the onset of schizophrenia (15 to 30 years and then again between 45 to 49 years) alternatively males have one peak of onset (15 to 24 years and then a

plateau in onsets from age 40 to 60) (Häfner, 2019). Regarding other studies that report the lifetime risk as greater for males than females, Häfner (2019) argues that a large proportion of the international epidemiological studies use the age 45 to 55 as the upper age limit which excludes onset data for postmenopausal women. Thus, ultimately the lifetime risk for schizophrenia ends up nearly the same for males (13.21/100,000) and females (13.14/100,000) (Häfner, 2019). Seeking to evaluate differences in onset symptoms based on age, data were gathered from 1109 individuals during their first admissions for schizophrenia, their ages ranged from 15 to 75 years old or older. Regarding onset symptoms, paranoid delusions were more frequent in first-onset cases for older age groups than younger age groups (Häfner, 2019), evaluating first illness episodes further Häfner (2019) discovered that most symptom dimensions did not display age related differences. However, the dimensions regarding delusions of persecution and systematized delusions rose for older adults compared to younger adults, alternatively incoherence and disorders of self showed the opposite trend with higher values in younger groups than older groups.

Other factors like being unemployed, living alone, or in social housing were associated with an increased odds of psychosis (Stilo & Murray, 2010) the social disadvantages may also increase isolation and potentially reduce protective factors like social support. Other researchers have found that schizophrenia is unequally distributed in society, being generally more prevalent in lower socioeconomic groups (Janoutová et al., 2016). And socioeconomic status as measured by paternal occupation has been associated with increased risk of psychosis, although other studies have found no association with low social class and psychosis or have found high social class associated with psychosis (Stilo & Murray, 2019). However, unemployment is also associated with psychosis (Stilo & Murray, 2010), so it follows that lower socioeconomic status

would be as well. First episode psychosis clients were also more likely to receive an income below the official poverty line (Stilo & Murray, 2019).

Migration:

Racial or ethnic minority status and migration is a consistent risk factor for schizophrenia (Janoutová et al., 2016; Paksarian et al., 2016; Stilo & Murray, 2019). Some of the psychosocial factors associated with minority status may heighten an individual's risk of psychosis including exposure to social defeat, discrimination, and experiences of other forms of social adversity (Paksarian et al., 2016). The social-defeat hypothesis posits that stressful social stressors that are more common to migrants or minorities may amplify an individual's risk to developing a psychiatric disorder (Selten et al., 2013 as cited by Robinson & Bergen, 2021). Patterns of risk regarding migration may also reflect the underlying discrimination present in the various countries (Robinson & Bergen, 2021). Alternatively, low levels of Vitamin D may mediate the relationship between migration and schizophrenia specifically because individuals may move from sunny regions with high sun exposure to areas with less light, for example from the Caribbean to England (Robinson & Bergen, 2021). Overall, migration is a risk factor for schizophrenia but due to the complexity and number of other factors involved in the process, it becomes difficult to definitively determine why migration increases risk for schizophrenia.

Urbanicity:

Urbanicity, which Robinson and Bergen (2021) define as the impact of residing in an urban area as calculated based on population size or density, has been associated with an increased risk for schizophrenia. Although a variety of variables may mediate the relationship between schizophrenia and urban living, one study found that individuals with increased genetic liability to schizophrenia are also more likely to reside in more densely populated urban areas

which could be caused by selective migration (Robinson & Bergen, 2021). Neighborhood deprivation might also help explain the relationship between schizophrenia and urbanicity, particularly because genetic risk for schizophrenia predicts residence in deprived neighborhoods (Robinson & Bergen, 2021). It follows then that the quality of the neighborhood may be related to the higher rates of schizophrenia diagnoses in urban areas. Interestingly, latitude was also associated with greater frequency of schizophrenia (Janoutová et al., 2016), so a multitude of location and environmental factors appear to be associated with risk for schizophrenia.

Childhood Adversity, Development, and Education:

Childhood trauma has been associated with an increased risk for schizophrenia, particularly for more severe stressful events like the loss of a close relative or parent (Robinson & Bergen, 2021, Stilo & Murray, 2010). Childhood physical abuse and experiencing bullying may also increase risk for psychosis later in life, in one study risk of psychotic symptoms increased twofold for 8- to 10-year-old victims of bullying (Stilo & Murray, 2010). The chronicity of the bullying was also relevant in the study, in that chronic bullying was more harmful to the individual than single instances. A modest correlation was also found between childhood physical and sexual abuse and auditory and non-auditory hallucinations in later life (Galletti et al., 2017).

Childhood central nervous system viral infections were also associated with developing schizophrenia later in life (Mäki et al., 2005). Neuromotor abnormalities and developmental delays can also indicate underlying pathology (Mäki et al., 2005), with completing developmental milestones early reducing risk and completing milestones later increasing risk. Additionally, poor school performance may be a premorbid sign of schizophrenia, as well as social and behavioural difficulties in childhood (Mäki et al., 2005). Individuals with severe

mental illnesses like schizophrenia tend to have lower educational attainment than the general population due partially to the onset of the illness (DeTore et al., 2023). Education and psychiatric diagnosis have also been shown to be associated with systemic racism due to educational barriers and clinician bias (DeTore et al., 2023). If low education is a risk factor for schizophrenia and if educational barriers occur as a result of systemic racism, it follows then that Black individuals will be at a greater risk for schizophrenia as a result of systemic racism.

Parental Characteristics & Obstetric Complications:

Characteristics of both the father and the mother can carry risks for their children. In particular, advanced paternal age is a risk factor for schizophrenia in the offspring. The risk could arise from psychosocial or biological factors, like mutations occurring in the sperm cells which lead to more copy number variations (Stilo & Murray, 2010). In one study, risk rose from 1/141 among individuals whose fathers were 25 years old or younger to 1/47 for individuals whose fathers were 50 to 54 years old, which was the age cutoff in the study (Stilo & Murray, 2010). Regarding the mother, in Paksarian et al.'s (2016) study an association was found between lower levels of maternal education and being assigned to one of the psychosis groups as opposed to the group without psychosis symptoms.

Maternal psychological stress and infection during pregnancy has been associated with structural and functional brain phenotypes that are related to schizophrenia, inadequate weight gain during pregnancy and peripartum asphyxia were also positively associated with schizophrenia (Pugliese et al., 2019). Moreover, prenatal malnutrition and vitamin deficiencies (e.g., folate, iron, vitamin D) are also risk factors for schizophrenia and frequently appear in both developed and developing countries (Pugliese et al., 2019, Robinson & Bergen, 2021). Additionally, severe famine at the time of conception was associated with a twofold increase in

the risk of schizophrenia for offspring (Pugliese et al., 2019). Although the findings regarding prenatal malnutrition, maternal stress, obstetric complications and schizophrenia appear at times contradictory or inconsistent (Pugliese et al., 2019, Robinson & Bergen, 2021). Specifically, some studies did not find evidence that maternal psychological factors put the infant at an increased risk of psychosis; conversely, one study found a twofold increased risk for psychosis for infants whose mother experienced the death of relatives during the first trimester (Pugliese et al., 2019). Prenatal stress has been shown to cause increased basal secretion or enhanced stress-related secretion of hormones which affects the capacity of the placenta to protect the fetus, thus potentially placing the fetus at risk (Pugliese et al., 2019). Prenatal malnutrition is also associated with schizophrenia pathophysiology in that it is linked to increased dopamine and serotonin release and turnover which reduces dendriatic branching (Pugliese et al., 2019).

In one meta-analysis, birth complications associated with schizophrenia were grouped into three categories: complications of pregnancy (preeclampsia, bleeding, diabetes, etc.), abnormal fetal growth and development (low birth weight, small head circumference, etc.) and complications of delivery (asphyxia, emergency cesarean section, etc.) (Stilo & Murray, 2010). Other birth complications have been considered risk factors for schizophrenia, including rhesus incompatibility, uterine atony and fetal abnormalities (Pugliese et al., 2019), which Pugliese et al. (2019) report as one of the strongest putative antecedents of schizophrenia. Yet, regarding obstetric complications the lack of standardization and methodological differences between studies impedes the generalizability of the findings (Robinson & Bergen, 2021). One of the common features underlying many of the birth complications is perinatal hypoxia, or a lack of oxygen during birth (Mäki et al., 2005; Pugliese et al., 2019). Damage related to hypoxia has been proposed as the link between obstetric complications and development of schizophrenia

with some areas of the brain, like the hippocampus, susceptible to damage caused by a lack of oxygen. Additionally, hypoxia may cause hemorrhaging which can have long term consequences like ventricular enlargement and corpus callosum abnormalities (McDonald & Murray, 2000).

Infections and Diet:

Infections and specific viruses are also considered risk factors for schizophrenia, particularly because genes associated with schizophrenia may be involved in brain development, and infections can cause decreased brain growth in the womb (McDonald & Murray, 2000). Supporting this claim, several studies have reported an increase in births of individuals diagnosed with schizophrenia in the four or five months that follow an influenza epidemic (McDonald & Murray, 2000). Others have found that viral central nervous system infections during childhood were associated with a 2.1x increased risk of schizophrenia in adulthood (Robinson & Bergen, 2021). Studies regarding gestational influenza as a risk factor for psychosis are inconsistent and mixed with some studies claiming influenza is a risk factor and others not; however, Pugliese et al. (2019) found that infections during pregnancy increased the offspring's risk of psychosis later in life eightfold. Individuals with schizophrenia generally have lifestyle factors and higher morbidity which may increase their susceptibility to infection later in life as well.

Inflammation has been one underlying mechanism proposed to explain the connection between infection and schizophrenia (Robinson & Bergen, 2021). Inflammatory processes impact brain functioning in a variety of ways including neuronal circuits, synaptic plasticity, reuptake of neurotransmitters and stimulation of the hypothalamic-pituitary-adrenal axis (Dantzer et al., 2008 as cited by Robinson & Bergen, 2021). Robinson and Bergen (2021) conclude that infections could play a role in triggering schizophrenia either directly or indirectly.

Oxidative stress may also be associated with schizophrenia, in that brain tissue is susceptible to an oxidative attack because of the high rate of oxidative metabolic activity and low levels of antioxidant enzymes (Mitra et al., 2017). Through infections and inflammatory processes, cytokines may hold particular importance in mediating the connection between the brain and the immune system (Mitra et al., 2017). Cytokines promote cell survival and proper connection in the neural network, and abnormal levels of cytokines are considered the main reason for immune and inflammatory abnormalities present in schizophrenia (Mitra et al., 2017). Deficiency of certain vitamins has also been associated with inflammation and oxidative stress, particularly low levels of B vitamins like B6, folate and B12 (Mitra et al., 2017). Omega-3 polyunsaturated fatty acids are also associated with inflammation and oxidative stress, in that they are needed for the synthesis of eicosanoids which are important lipid mediators that regulate inflammation and oxidative stress (Mitra et al., 2017). Omega-3 polyunsaturated fatty acids metabolites may also protect against brain damage (Mitra et al., 2017) due to its anti-inflammatory qualities.

Winter and spring babies, particularly born at higher latitudes, also have higher incidences of schizophrenia which could arise from seasonal variation in viral exposures (McDonald & Murray, 2000). Genetic findings regarding inflammatory genes support the possibility that the winter/spring birth and schizophrenia relationship may be mediated by immune-related processes (Robinson & Bergen, 2021). Although, other variables like birth complications, sunlight, nutrition and the temperature/weather could also play a role (Robinson & Bergen, 2021). Pollution can also induce neuroinflammation, but it remains unclear to what extent it causes deficits in schizophrenia (Comer et al., 2020). Some researchers have even claimed that the immune system may be the link between various genetic and environmental risk factors for schizophrenia (Comer et al., 2020).

At illness onset, unhealthy dietary habits may also occur; in particular, individuals in high risk prodromal phases of psychosis often show poor dietary habits like high consumption of saturated fatty acids, carbohydrates and salt, and low consumption of dietary fiber, fruits and vegetables (Saugo et al., 2020; Scoriels et al., 2019). Clients with schizophrenia also often have low levels of antioxidants and anti-inflammatory nutrients like omega-3 polyunsaturated fatty acids, vitamin D, B12, B6, E, and folate (Mitra et al., 2017). Although Saugo et al. (2020) also report that other factors like lower levels of education and lower household income may also relate to diet, in fact clients with lower levels of education were less likely to follow a Mediterranean diet (consuming pasta, vegetables, leafy greens, fruit, legumes, olive oil, fish, while avoiding soft drinks, butter, red meat, and potatoes). After onset, the chronicity of psychosis is associated with poorer macronutrient consumption (Saugo et al., 2020). Scoriels et al. (2019) compared the diet patterns for clients in the first episode of psychosis to clients with treatment resistant schizophrenia, and a control group. The treatment resistant group showed the worst compliance rates (24.34%) to the WHO international food consumption recommendations, followed by the first episode psychosis group (27.11%) and then the control group (41.71%). Unhealthy diet habits also seem to progressively worsen, specifically regarding the intake of sugary non-alcoholic beverages which may be linked to immediate rewards (Scoriels et al., 2019). Saugo et al. (2020) also report that it is essential to identify and improve dietary habits at the onset of psychosis because antipsychotic medication has been known to impact physical health. In Saugo et al.'s (2020) study, clients taking second generation antipsychotics tended to have higher BMIs and blood cholesterol during the first treatment months; antipsychotics are thought to mediate the weight gain, yet it appears unclear the proportion of weight gain caused

by medication compared to lifestyle. Moreover, clients on antipsychotics report higher cravings, hunger, consumption of fast food and low food literacy (Saugo et al., 2020).

Nutrition intervention may improve outcomes for clients with schizophrenia if delivered after the initiation of antipsychotics (Saugo et al., 2020). However, the efficacy of different dietary supplements remains unclear, with a limited number of studies on vitamin D and B supplements; although the present studies have found that gender and polymorphisms may affect the effectiveness of vitamin B supplementation for clients with schizophrenia (Mitra et al., 2017). For vitamin E, some studies have indicated that it may enhance the potency of other vitamins (Mitra et al., 2017). Ultimately, following a healthy diet (like the Mediterranean diet) helps protect against, and may prevent, the development of cardio-metabolic related illness (Saugo et al., 2020). Scoriels et al. (2019) suggest that some behavioural and nutritional interventions are not effective in the long-term, so strategies like focusing on a healthy diet as opposed to weight loss may have better outcomes.

Chapter 3: Summary

The ICD-11 and DSM-5 have changed the diagnostic criteria for schizophrenia over time to strengthen the boundary between schizophrenia and other psychotic disorders. Although, many individuals may qualify for multiple disorders at the same time, which may indicate that different symptoms are associated with the same underlying condition (Luciano et al., 2020). Regarding schizophrenia, true prevalence and incidence rates are difficult to determine but the average incidence rate was 15.2 per 100,000 (McGrath et al., 2008). Overall, the risk factors for schizophrenia vary based on demographic variables and experiences. The subjective experience of racism could also be a risk factor in the development of psychotic illness (De Maynard, 2009).

Both genetics and the environment affect susceptibility to schizophrenia; however, the cause of schizophrenia continues to remain elusive.

Chapter 4: Overdiagnosis vs. Misdiagnosis of Schizophrenia

Some controversy exists regarding the rates of schizophrenia particularly with overdiagnosis, misdiagnosis, or a conflation of the two. Thombs et al. (2019) performed a meta-review of the literature surrounding overdiagnosis and misdiagnosis of psychiatric disorders. Overdiagnosis occurs due to “the application of a diagnosis based on agreed upon standards to a person who cannot benefit from the diagnosis and who may be harmed,” (i.e., diagnosing individuals who experience transitory symptoms or mild symptoms that reflect ordinary life experiences) (Thombs et al., 2019). There are two types of overdiagnosis, *overdetection* (testing and identifying asymptomatic people with abnormalities that would have resolved on their own) and *overdefinition* (definition of risk factors are expanded without evidence of improved quality of life for the individual) (Brodersen et al. as cited by Thombs et al., 2019).

Alternatively, other phenomena can also disrupt the diagnostic and treatment process including, *false-positive* test results (test results identify abnormalities that when investigated do not indicate pathology) or *overtreatment* (a treatment is applied correctly to the diagnosed condition although evidence does not support the efficacy of the treatment) or *overtesting* (the overly frequent use of a test) or *misdiagnosis* (the wrong diagnosis is applied, or when a diagnosis is applied to a person who does not meet criteria for any diagnosis).

In Thombs et al.’s (2019) meta-review, they found consistent inconsistency in the use of the term overdiagnosis with only 22 of 193 studies analyzed (11.4%) accurately using overdefinition or overdetection to measure overdiagnosis. Alternatively, 75% of the articles conflated overdiagnosis and misdiagnosis (Thombs et al., 2019).

Overdiagnosis harms the individual with consequences like stigma, implications for employment and ‘nocebo’ effects which occur when expectations created by a diagnosis result in

negative health effects (Thombs et al., 2019). Other consequences of overdiagnosis include the risk of exposure to adverse medication effects, pharmacologic errors, negative experiences with psychological treatments, as well as diverting resources away from people who actually meet the diagnostic criteria and who could benefit from treatment but are unable to access services due to limited availability (Barnes, 2013; Thombs et al., 2019). Considering that 80-90% of individuals retain their schizophrenia diagnosis for 1-10 years after the initial diagnosis (Tandon et al., 2013), either a majority of individuals are rightfully diagnosed at the start, or anchoring bias has occurred. Jegarl et al. (2023) find that anchoring bias happens when the first comments regarding symptoms or diagnoses in a client's file are automatically replicated without review; thus, if individuals are wrongly diagnosed initially, and if most individuals retain their schizophrenia diagnoses for at least 1-10 years, the harmful effects of overdiagnosis (stigma, employment issues, nocebo effects) could last for years for individuals who are wrongly diagnosed.

In Canada, Schwartz and Blankenship (2014) studied the reevaluation of clients diagnosed with psychotic disorders by referring them to cultural consultation service for reevaluation. For 49 percent of clients the psychotic disorder diagnosis was changed to a nonpsychotic disorder diagnosis, yet Black individuals represented the largest percentage of patients who had no change in their diagnosis (Schwartz & Blankenship, 2014), demonstrating that prior psychotic disorder diagnoses were significantly less likely to change for Black individuals. Jegarl et al. (2023) completed a case study of a client who was misdiagnosed with schizophrenia; the Black woman spent 4 years struggling with a schizophrenia diagnosis that used terms of psychosis to describe her expression of PTSD and depression. Jegarl et al. (2023) found that the client had experienced first-hand the consequences of iatrogenic racism in clinical

practice; particularly because the anchoring bias occurred and her initial diagnosis was replicated without further evaluation (Jegarl et al., 2023).

A variety of factors may influence overdiagnosis including mental health screening and disease definitions among others. Screening tools, that although supported in some countries like the USA, are recommended against in the UK and Canada specifically because of the lack of trials and evidence demonstrating the benefit of screening (Thombs et al., 2019); moreover, screening tools may identify people who are experiencing transitory or temporary symptoms that will resolve with time, thus contributing directly to overdiagnosis of disorders. Evidence for overdiagnosis has been found for Black individuals in the UK compared to White Individuals (prevalence rates of 14 per 1000 and 8 per 1000 respectively) (Fung et al., 2009), because episodes of psychosis are briefer for Black clinical populations than White populations (Fung et al., 2009) it follows then that Black individuals may experience transitory or temporary symptoms and may be overdiagnosed by clinicians, receiving a schizophrenia diagnosis.

Definitions of disorders are also continuing to expand to include more individuals, which increases the risk for overdiagnosis (Thombs et al., 2019); for example, the current ICD-11 requires symptoms for schizophrenia to occur for a minimum of one month (Gaebel et al., 2020) which has the potential to recognize temporary symptoms as pathological and could ultimately contribute to overdiagnosis. Definitions of psychological disorders have also been criticized as reductionistic and decontextualized (Thombs et al., 2019); hence, considering racist contexts and the negative effects of discrimination for the individual may aid in reducing overdiagnosis of schizophrenia in Black individuals and stop the additional harm of pathologizing normal responses to racism and discrimination. Other factors that may influence disproportionate diagnoses include provider bias (Anglin & Lui, 2023), increased exposure to risk factors

(Rakhshan Rouhakhtar et al., 2023) and cultural differences in symptomatology (Williams & Earl, 2007 as cited by Rakhshan Rouhakhtar et al., 2023).

Comorbidities with Schizophrenia Diagnoses

The most common comorbidities for individuals diagnosed with schizophrenia are anxiety and depression (Sultana et al., 2019); in fact, providers may conflate severe trauma or depression with psychosis and paranoia depending on the race of the client (Jegarl et al., 2023). In general, Jegarl et al. (2023) argue that schizophrenia is a diagnosis of exclusion and should be considered only after other conditions like substance use, trauma and depression have been ruled out; yet disparities between Black and White individuals in diagnostic rates indicate that this may not always be the case, particularly for non-White individuals. Specifically, researchers have postulated that for some Black individuals given the diagnosis of schizophrenia, other labels may be more accurate for the client, particularly Major Depressive Disorder and Bipolar Disorder (Schwartz & Blankenship, 2014).

Mounting evidence suggests that schizophrenia and bipolar disorder have a partly shared etiology considering the overlap in genetic and non-genetic risk factors (Craddock et al., 2009 and Demjaha et al., 2012 as cited by Paksarian et al., 2016; Robinson & Bergen, 2021). Paksarian et al. (2016) evaluated the phenomenological overlap between schizophrenia and bipolar disorder by studying youth (age 8-21) in the USA. They found that compared to White participants, minority participants were more likely to report psychosis symptoms and to be categorized into groups with attenuated positive symptoms only, mania symptoms only, or both positive and mania symptoms as opposed to the neither group. Findings from the study indicate that both minority participants are more likely to report psychosis symptoms but also that there is a degree of overlap in subthreshold symptomatology. However, although minority status was

associated with the psychosis subgroups, there was variation across minority groups with Black individuals at a higher risk than Hispanics (Paksarian et al., 2016).

Researchers have also considered substance use in relation to schizophrenia. By itself, cannabis usage is not a sufficient trigger for psychosis; however, individuals with greater genetic predisposition to schizophrenia use the drug more frequently (Robinson & Bergen, 2021). Moreover, frequent cannabis use has been associated with higher relapse rates for individuals with psychosis (Robinson & Bergen, 2021). Several studies have demonstrated that the use of cannabis has also been associated with an increased risk of psychosis and psychotic symptoms (Galletti et al., 2017; Robinson & Bergen, 2021), with the active drug delta-9 tetrahydrocannabinol (THC) raising the level of cerebral dopamine which may help explain the mechanism behind the relationship (McDonald & Murray, 2000). Other studies have found an association between auditory hallucinations and cannabis use, alternatively non-auditory hallucinations were associated with cocaine and other drug use; however, alcohol was not associated with either type of hallucination (Galletti et al., 2017). Ultimately, it remains difficult to determine whether cannabis remains causally related to schizophrenia, but a dose-response relationship did appear in that higher levels of cannabis consumption correlated with a greater likelihood of schizophrenia (McDonald & Murray, 2000).

Clients with schizophrenia may also develop comorbid medical conditions, specifically cardiovascular, metabolic disorders and irritable bowel syndrome (Comer et al., 2020; Saugo et al., 2020). Some of causes of the medical conditions range from antipsychotic treatment to unhealthy lifestyle behaviours (e.g., smoking, alcohol, etc.) to a genetic predisposition (Saugo et al., 2020). Alternatively, Comer et al. (2020) find that the comorbid medical conditions may be caused by greater susceptibility to neuroinflammation, and many of the risk factors associated

with schizophrenia converge on their ability to promote neuroinflammation. Inflammatory responses can also target specific brain circuits, with evidence for more grey matter loss and poorer language performance for schizophrenia clients in a high inflammatory state (Comer et al., 2020). Obesity has also been reported to co-occur with schizophrenia, with an estimated 60 percent of clients affected (Scoriels et al., 2019). A number of factors have been associated with obesity and schizophrenia including genetic, psychopathological, developmental and pharmacological (Scoriels et al., 2019).

Diagnostic Tools for Schizophrenia

Due to the heightened rates of schizophrenia diagnosis in Black individuals, some researchers have started to investigate the measures used to evaluate symptoms. Many of the tools used to measure schizophrenia have been normed on White populations, consequently presenting skewed representations of baseline normative symptoms that may present for Black individuals (Gordon et al., 2023). It follows then, that disparities between Black and White individuals in the rates of diagnosis of schizophrenia could result directly from the diagnostic tools used to measure the symptoms. Moreover, some symptoms of schizophrenia, like paranoia, present as objective delusions whereas others are ambiguous and plausible (e.g., the belief that aliens are monitoring one's thoughts and the belief that one's being followed or monitored, respectively); thus, clinicians are required to subjectively assess the symptom as it relates to the individual (Gordon et al., 2023). Ambiguity puts the individual at greater risk for assessor bias, specifically because it requires the clinician to make an objective ruling on a subjective experience that may or may not indicate an underlying pathology.

Although paranoia is a primary feature of psychosis it is susceptible to racial bias in assessments; for example, for Black individuals dealing with discrimination and trauma

associated with racism it may affect the way that they interpret threat and express paranoia (Gordon et al., 2023). Additionally, the Brief Psychiatric Rating Scale (BPRS) which is a structured clinician-rated interview that includes questions about positive symptoms, like suspiciousness, but it only captures some aspects of clinical paranoia; Gordon et al. (2023) recommend including a lifetime assessment or an assessment with paranoia combined with cultural mistrust measures, to better capture the nature of suspicion or paranoia. Furthermore, gathering information from other sources like family members for clients from marginalized communities may improve the accuracy of diagnoses (Gordon et al., 2023).

Using an item response theory approach, Wolny et al. (2023) analyzed the item validity of the Schizotypal Personality Questionnaire (SPQ) which is a commonly used self-report instrument for schizotypal personality disorder and considers nine features of the disorder: suspiciousness and paranoid ideation, no close friends, constricted affect, ideas of reference, odd beliefs or magical thinking, unusual perceptual experiences, odd or eccentric behaviour, odd speech and excessive social anxiety. The Schizotypal Personality Questionnaire although originally used as a screening tool, has been implemented in study designs to characterize underlying personality features related to core phenomenology expressed in psychotic disorders (Wolny et al., 2023).

Results from Wolny et al.'s (2023) study showed that Black and White participants exhibited similar schizotypal personality trait severity in overall measure performance; however, compared to White participants, Black participants displayed higher item endorsement on most items of the suspiciousness and paranoid ideation and ideas of reference subscales (Wolny et al., 2023). Alternatively, White participants showed higher rates of item endorsement in the odd or eccentric behaviour, odd beliefs or magical thinking, odd speech and social anxiety subscales.

Overall, Black participants scored higher on the subscales related to paranoia and negative/interpersonal symptoms; whereas White participants scored higher on subscales related to disorganization and positive symptoms (Wolny et al., 2023). Findings from Wolny et al. (2023) demonstrate that *race* has a large and unaccounted influence on latent trait measurements, which is especially pronounced for Black individuals on subscales related to paranoia.

Several studies have evaluated the SPQ-B (a brief version of the Schizotypal Personality Questionnaire) for cross-cultural validity and reliability. The SPQ-B includes three subscales: Cognitive Perceptual-Positive (ideas of reference, paranoid ideation, magical thinking and unusual perceptual experiences), Interpersonal (social anxiety, no close friends, blunted affect and paranoid ideation) and Disorganized (odd speech and behaviour) (Ortuño-Sierra et al., 2013). Ortuño-Sierra et al. (2013) compared adolescent samples from Spain and Switzerland. Findings from their study demonstrated internal consistency for the Spanish sample at 0.81 for the total score with a slightly higher internal consistency score for the Swiss sample (0.84); a three-factor model including the Interpersonal, Cognitive-Perceptual and Disorganization dimensions were found to best fit the data as proposed by Raine et al. (1994). Ortuño-Sierra et al. (2013) made comparisons of the latent means between the Spanish and Swiss samples, and although the results support partial strong measurement invariance of SPQ-B scores the latent means for the Interpersonal dimension showed statistically significant differences between the samples with the Spanish participants scoring higher on the Interpersonal dimension than the Swiss. For the other dimensions, Cognitive-Perceptual and Disorganization, the samples showed no statistically significant differences (Ortuño-Sierra et al., 2013). Thus, although the construct measured has the same meaning and structure across groups, culture must be considered when

setting cutoff points for pathology because some cultural groups may have higher mean scores, but the scores may not reflect true pathology.

Clinician Bias

The clinician bias hypothesis posits that individuals from different racial groups present in a similar manner, but due to bias and racial stereotypes misdiagnoses (Rakhshan Rouhakhtar et al., 2023) and overdiagnoses occur (Bommersbach et al., 2023). Other researchers have defined clinician bias as cultural insensitivity in which clinicians diagnose individuals based primarily on personal perceptions or stereotypes about the individual's ethnicity or culture thus harming the individual (Schwartz & Blankenship, 2014; Schwartz et al., 2019). Although structured interviews offer a buffer against differential rate of diagnoses by race, clinician biases emerge even when using structured clinical interviews (Eack et al., 2012; Rakhshan Rouhakhtar et al., 2023; Schwartz & Blankenship, 2014). Clinicians have differentially attributed schizophrenia symptoms to Black individuals and have been found to not strictly adhere to diagnostic criteria or fully consider and complete mood disorder assessments for Black individuals (Schwartz et al., 2019). Furthermore, providers for racially minoritized groups often dismiss mood concerns and instead emphasize symptoms of psychosis and differentially attribute symptoms of emotional distress to psychosis instead of mood, trauma, and substance use disorders (Jegarl et al., 2023). Jegarl et al. (2023) argue that clinicians assign a diagnosis of schizophrenia/schizoaffective disorder according to *race* more than any other demographic variable.

Schwartz et al. (2019), by using symptom rating scales, clinical diagnoses, and objective/behaviourally based measures, attempted to untangle the relationship between cultural insensitivity and the diagnostic disparities between Black and White individuals. They posited

that considering that diagnosis and symptom ratings are inherently subjective and are also extrapolated to global impressions of the client from an isolated channel of behaviour, cultural insensitivity may play a significant role in diagnostic biases (Schwartz et al. 2019). In the study, clinicians were more likely to rate Black individuals' behaviour as more disorganized when they used less emphasis during speech, whereas the same was not true for White individuals. Then, at the higher level of disorganization Black individuals were more likely to be diagnosed with schizophrenia compared to White individuals (Schwartz et al., 2019). Overall, Schwartz et al. (2019) found that diagnostic disparities exist between Black and White individuals despite a lack of differences in current symptomatology, moreover behaviour was related to diagnosis as a function of *race*. For the behaviourally based measure of disorganization Black individuals were more likely to have higher ratings for ambiguous word meanings, grammatical unclarities, and wrong word references (Gordinier & Docherty, 2001 as cited by Schwartz et al., 2019); however, some phonological and grammatical linguistic variations may become evident as early as childhood (Schwartz et al., 2019). Thus, perhaps differences in Communication Disturbances Index scores do not reflect true pathology but instead reflect normative variations in communication. Ultimately, Schwartz et al.'s (2019) study found diagnostic bias exists with Black individuals diagnosed at a higher rate than White individuals, a bias observed for clinically rated diagnosis but not symptoms.

Eack et al. (2012) also considered clinician bias in the form of perceived honesty. They reviewed racial differences in diagnostic rates of schizophrenia for Black individuals and White individuals in the US as mediated by interviewers' perceptions of client honesty. Findings from Eack et al.'s (2012) study showed that even when other demographic variables were controlled for, Black individuals had over a threefold risk of receiving a schizophrenia diagnosis compared

to White individuals; however, when the model was adjusted for interviewers' perceptions of client honesty, racial groups were no longer statistically significant in the model (Eack et al., 2012). The results suggest the powerful influence clinicians' biases and perceptions have on outcomes for Black individuals specifically because other sociodemographic or cultural characteristics (auditory hallucinations, absence of substance abuse) did not consistently mediate the effect of race on diagnoses, unlike interviewer-perceived honesty (Eack et al., 2012). Furthermore, the client-patient relationship may contribute to racial disparities in the diagnosis of schizophrenia (Eack et al., 2012), and high diagnosis rates among Black individuals may reflect clinician bias instead of a real underlying pathology.

Initial clinician bias can have long-term effects and trigger the anchoring bias in which the initial comments and diagnoses about the client are copied without any reexamination of the client or without using a lens of racial equity; racial bias in healthcare appears when alternative explanations/avenues are ignored for dominant misunderstandings of Black individuals' experiences (Jegarl et al., 2023). Schizophrenia may have been diagnosed too liberally, overdiagnosed, or confounded by substance use (Bommersbach et al., 2023); yet, despite using substances at the same rate as White populations, Black individuals in the USA are less likely to ultimately have access to medication and treatment than White groups (Jegarl et al., 2023). Ultimately, deviant behaviours, behaviours that a clinician considers unusual or out of the norm either statistically or from their personal perspective, do not constitute a disorder nor do culturally acceptable or expected patterns of cognition, psychological or emotional states, or behaviours (Schwartz & Blankenship, 2014).

Chapter 4: Summary

Overdiagnosis and misdiagnosis are often conflated in research studies, making it difficult to determine the true prevalence and incidence rates of the populations. The effects of overdiagnosis harm the individual through stigma and employment issues, among others particularly for Black individuals. As, studies have also indicated that Black individuals are less likely to have their diagnosis changed than White individuals (Schwartz & Blankenship, 2014). Diagnostic tools like the Brief Psychiatric Rating Scale, the Schizotypal Personality Questionnaire and the Schizotypal Personality Questionnaire-Brief, show cultural biases (Gordon et al., 2023; Ortuño-Sierra et al., 2013; Wolny et al., 2023). Clinician bias also affects the client due to perceptions of client honesty and weak client-counsellor alliances. Overall, including cultural and contextual factors when diagnosing a client is critical as it is the basis for future treatment decisions.

Chapter 5: Racism, Schizophrenia, and Psychosis

Multiple studies have demonstrated that Black individuals are diagnosed in clinical interviews with schizophrenia and psychosis symptoms at higher rates than White individuals or people from other minority groups (Anglin, 2023; Anglin & Lui, 2023; Fung et al., 2009; Hampton, 2007; Nagendra et al., 2022; Rakhshan Rouhakhtar et al., 2023) despite evidence that the prevalence of schizophrenia is equally distributed among the groups (Storosum et al., 2023). However, individuals belonging to marginalized racial groups with psychotic disorders exhibit divergent illness outcomes as compared to majority groups (Rakhshan Rouhakhtar et al., 2023). Specifically, some studies have found that Black individuals diagnosed with psychotic disorders show better outcomes over time compared to White groups including: higher global functioning, fewer negative symptoms and more time in a recovered state (Rakhshan Rouhakhtar et al., 2023); whereas other studies have found that Black individuals with serious mental illness showed lower rates of improvement in symptoms and global functioning and were likely to have returned to work a year after discharge from the hospital (Bommersbach et al., 2023; Browne & Mohamed, 2023).

Rakhshan Rouhakhtar et al. (2023) studied Black and White participants in the clinical high-risk phase of psychosis in the USA. Their findings indicated a moderating effect of *race*, whereby positive symptom total scores were a significant predictor of social functioning for White individuals but were unrelated to the outcomes for Black individuals (Rakhshan Rouhakhtar et al., 2023). However, some caution is needed when considering Rakhshan Rouhakhtar et al.'s (2023) results as clinical high-risk status and subthreshold experiences do not sufficiently predict who develops psychotic disorders (Fusar-Poli et al., 2013; Misra et al., 2022); although, other studies have reported that subthreshold psychosis may be etiologically

continuous with clinical disorder (Linscott & van Os, 2013; Paksarian et al., 2016).

Alternatively, for Black participants greater levels of hallucinations were associated with higher social functioning (Rakhshan Rouhakhtar et al., 2023). Perceptual abnormality or hallucination item scores may reflect culturally normative experiences or perhaps healthy and adaptive experiences, for example spirituality often confounds accurate assessment of psychosis-spectrum symptoms for Black individuals (Rakhshan Rouhakhtar et al., 2023).

In an international study of six countries (Brazil, France, Italy, the Netherlands, Spain, the UK), Misra et al. (2022) found a relationship between chronic discrimination and psychosis. In particular, there was a dose-response association between major discrimination and increasing odds of psychosis. Alternatively, no evidence was found supporting a difference in psychosis odds after experiencing a major discrimination event (Misra et al., 2022) suggesting that the chronic experiences of discrimination are more harmful to the individual than a single event. Other studies have found that the types of discrimination like everyday discrimination (e.g., being treated with less respect), major racist events, outgroup colorism, and ingroup colorism are also significantly associated with lifetime psychotic experiences (Oh & Anglin, 2023). In Misra et al.'s (2022) model, minority ethnic groups had a 1.43-fold greater odds of psychosis compared to the ethnic majority. Moreover, in mediation analysis pervasive experiences of major discrimination explained 5.1% of the excess risk of psychosis for the minority group (Misra et al., 2022).

Ethnic and racial identity (ERI), which has been defined as a psychological construct reflecting the beliefs and attitudes individuals hold about their ethnic/racial group memberships and how the beliefs and attitudes develop over time (Umaña-Taylor et al., 2014; Oh & Anglin, 2023) may also influence the way that the individual interprets discriminatory experiences. ERI

could result in greater psychopathology and exacerbate the effects of discrimination, which was demonstrated in the UK with researchers finding that as levels of ethnic racial identity increased so did the odds of a first-episode of psychosis (Oh & Anglin, 2023). Moreover, the racialized history of the individual and their unique sociohistorical context could also influence the buffering and exacerbating effects of ERI. Specifically, for Caribbean Black Americans psychotic experiences were associated with lower ethnic racial identity yet the opposite trend was found for African Americans with psychotic experiences associated with higher levels of ethnic and racial identity (Oh & Anglin, 2023). Oh and Anglin (2023) conclude by finding that racial group identification and racial private regard modified the effects of some types of discrimination on lifetime psychotic experiences for Caribbean Black Americans, however the same was not true for African Americans. Thus, racial identity complicates the association between psychotic experiences and discrimination (Oh & Anglin, 2023).

Alternatively, Misra et al. (2022) argue that discrimination leads to paranoia symptoms and thus may be on the causal pathway between discrimination and psychosis; however, they also find that perceived discrimination is only a small part of the social adversities that contribute to excess risk of psychosis among minority ethnic groups. Yet meta-analyses have found migration and membership in a minority ethnic group consistently associated with heightened risk of psychotic disorders and psychotic symptoms (Misra et al., 2022). Prevalence of discrimination could contribute to feelings of distrust and hostility and overtime experiences of interpersonal threat and violence could help account for the excess rates of psychotic disorders among minorities (Misra et al., 2022; Morgan et al., 2019). Ultimately, distinguishing harmful paranoia and delusions from reasonable responses to experiences of discrimination and racism remains crucial for accurately diagnosing and supporting minority individuals.

In other studies, experiences of racism explained about 3-4% of the variance in psychotic experiences (Nagendra et al., 2022). Racial discrimination and racism are associated with psychosis because they are experienced as stressful and traumatic, and trauma is linked to psychosis because symptoms of PTSD like hallucinations and hypervigilance are common and may be interpreted as paranoia (Anglin, 2023). Experiencing racial discrimination has been found to consistently correlate with vigilance and hyperarousal (Anglin, 2023), specifically in the USA with Black and Latinx groups more likely than White groups to report psychotic symptoms in general population samples (Anglin & Lui, 2023). Some studies from the USA have found racial discrimination and police violence exposure and lower average educational attainment could explain higher levels of psychotic experiences among Black and Latinx groups compared to White groups (Anglin, 2023). Disassociation, which has been associated with post traumatic reactions, was associated with exposure to racial discrimination (Anglin, 2023). Specifically, race-based traumatic stress theory suggests that minority people experience racial discrimination as psychological trauma (Anglin, 2023) and one way of handling the trauma is through dissociating or separating such experiences from consciousness (De Maynard, 2009). For some Black individuals, they may be able to separate racialized aspects from their everyday experience, alternatively other people may become so traumatized by racialized experiences that psychopathology ensues (De Maynard, 2009). In the beginning, dissociation, which includes normal processes that are initially used defensively by the individual to handle traumatic experiences, may help the individual function adequately within society. Yet, over time dissociation invoked defensively becomes maladaptive and results in cognitive vulnerability, low self-esteem and identity insecurity (De Maynard, 2009).

Environmental risk factors are also tied to experiences and symptoms within the psychosis spectrum (Anglin & Lui, 2023). For example, racism towards Black individuals that results in the target being unfairly fired from a job to being followed around a store have been associated with elevated rates of psychotic symptoms (Nagendra et al., 2022). Other effects of structural racism, for Black individuals diagnosed with schizophrenia, include lower rates of employment, income, marriage, educational attainment and social support (Bommersbach et al., 2023; Nagendra et al., 2022). Racial microaggressions hold particular importance for psychotic experiences due to their ambiguity, in that the target must determine whether to attribute negative treatment to *race* or some other reason (Anglin & Lui, 2023), specifically high implicit and low overt racial bias creates a mixed message that may facilitate self-doubt (Anglin & Lui, 2023). Microaggressions also cause minoritized people to dedicate additional cognitive resources toward interpreting and navigating ambiguous behaviours, thus creating a climate of distrust and insecurity in their perceptions and sensibilities (Anglin & Lui, 2023). One USA based study, found that experiences of discrimination and racial and ethnic microaggressions explained 10.91% of the variance in psychotic experiences between White and Black groups (Anglin & Lui, 2023).

Cultural (Adaptive) Paranoia and Healthy Suspiciousness

Cultural or adaptive paranoia reflects the heightened, yet appropriate, level of awareness Black individuals may have regarding how they are perceived by others and the consequences of their actions as a marginalized group (Wolny et al., 2023). In fact, normative paranoia may be heightened in Black individuals as an adaptive response to structural and individual-level forms of racism in the USA (Wolny et al., 2023). Higher suspiciousness in Black individuals can be an adaptive response to discrimination rather than a result of an underlying pathology (Nagendra et

al., 2022); Black individuals from the USA scored significantly higher than White individuals on scales measuring distrust and perceived hostility by others, even among those without a psychiatric diagnosis (Hampton, 2007). Thus, the threshold between normative and maladaptive may be shifted towards higher levels of paranoia in Black individuals as compared to White individuals (Wolny et al., 2023). Researchers have identified worry as a causal factor in the maintenance of clinical paranoia; alternatively perceived racism is a predictor of non-clinical paranoia (Wolny et al., 2023). For Black individuals, worry may be compounded by racially motivated psychosocial stressors like discriminatory experiences which may also place Black individuals at a higher risk for psychotic experiences (Wolny et al., 2023). Elevated diagnostic rates of psychosis in Black individuals may result from the confluence of adaptive paranoia, caused by systemic racism, and illness-related clinical paranoia (Wolny et al., 2023).

Even when accounting for levels of psychopathological symptoms, Black individuals report higher levels of subclinical paranoia as compared to their White counterparts (Rakhshan Rouhakhtar et al., 2023); however, past police victimization has accounted for the significant link between paranoid beliefs and expectations of victimization (Rakhshan Rouhakhtar et al., 2023). Moreover, multiple studies from the USA have found that Black and White individuals did not differ in violence or arrests (Bommersbach et al., 2023; Browne & Mohamed, 2023), yet Black individuals had spent a larger number of nights in jail (Browne & Mohamed, 2023). It follows then that Black individuals would trust law enforcement less and may foster 'paranoid' beliefs that are rooted in real discriminatory experiences. De Maynard (2009) finds that ethnic minorities and Black individuals in the UK may have also developed a cultural paranoia, firmly grounded in everyday experiences of racism.

However cultural suspicion or guardedness could also be misperceived as negative symptoms like flat affect, diminished social activity, alogia and avolition (Schwartz et al., 2019). Perceived racism for Black individuals also correlates with measures of cultural mistrust, which is associated with clinical assessments of paranoia and a higher likelihood of being assigned a schizophrenia diagnosis (Gordon et al., 2023). Taken together, perceiving racism and using caution, or guardedness, may put Black individuals at heightened risk for receiving a schizophrenia diagnosis.

Chapter 5: Summary

Experiences of discrimination are linked to PTSD, hypervigilance, and disassociation (Anglin, 2023; Anglin & Lui, 2023; De Maynard, 2009) and the chronicity of the discrimination is associated with worse outcomes than singular experiences of discrimination (Misra et al., 2022). Moreover, cultural or adaptive paranoia may help protect minority groups from the devastating effects of racism and discrimination. Persistent societal discrimination may lead to psychotic experiences in Black Americans; however, we should not assume that everyone who experiences racism will experience psychosis and thus pathologize Black communities (Nagendra et al., 2022). Ultimately, considering the cultural context of the individual is paramount for helping minority individuals heal from psychological harms of racism and discrimination.

Chapter 6: Pathways and Responses to Treatment of Schizophrenia

Presently there is no causal therapy for schizophrenia available, instead the focus is mostly on reducing acute psychotic symptoms and preventing a relapse. Häfner (2019) argues that negative symptoms and cognitive deficits present the greatest problem in treatment because they are the main causes of social consequences that are associated with the disorder. The first psychotic episode is usually preceded by the prodromal stage which occurs over several years, a long and untreated prodromal period is a predictor a worse course of illness (Häfner, 2019). Thus, early identification during the prodromal stage and early treatment could help improve client outcomes. Oluwoye and Stokes (2023) investigated treatment seeking behaviour for Black individuals in their first episode of psychosis and their families. Family members in the study misattributed signs and symptoms of psychosis to substance use or spiritual beliefs and clients' fear of judgement and burdening family members delayed the disclosure of hallucinations and delusions which delayed treatment seeking (Oluwoye & Stokes, 2023). A general decrease in social functioning (lack of employment, management of day-to-day tasks, disruptions in sleep) and behavioural changes (impulsivity, aggression, increased substance use, delusions, hallucinations) marked the experiences prior to and at the onset of psychosis (Oluwoye & Stokes, 2023). Treatment seeking from informal support (e.g., pastors) often occurred before initiating formal treatment services (Oluwoye & Stokes, 2023).

Research has been mixed regarding treatment outcomes for Black and White individuals (Bommersbach et al., 2023; Browne & Mohamed, 2023; Rakhshan Rouhakhtar et al., 2023). Browne and Mohamed (2023) argue that the differential outcome trajectories may provide evidence for inequitable service delivery, in that Black clients do not receive quality treatment or the proper dosage. Based on veterans from the USA, researchers found that case managers spent

significantly less time with their Black clients and were less likely to visit them once a week as compared to White clients (Browne & Mohamed, 2023). Both White and Black veterans showed improvement in functioning and alcohol and drug use, although Black clients showed greater improvements in symptoms, suicidality, and quality of life (Browne & Mohamed, 2023). Findings from Browne and Mohamed's (2023) study indicate that system level factors like access to health care contribute almost entirely to differences in outcomes rather than racial differences in individual-level factors; moreover, when Black clients received the proper care, they showed greater improvements than White clients.

Barriers to Accessing and Seeking Treatment

For Black individuals diagnosed with schizophrenia in the US, they are less likely to receive high quality mental health services (Bommersbach et al., 2023; Oluwoye & Stokes, 2023) and be provided with appropriate care than White individuals (Browne & Mohamed, 2023). According to one study, Black individuals in the USA were 5 times less likely to receive "minimally adequate mental health treatment;" treatment which includes an appropriate medication prescription and at least four outpatient psychiatric visits (Browne & Mohamed, 2023; Wang et al., 2002). Alternatively, White clients are likely to be offered evidence-based treatments for psychosis compared to Black clients who are more likely to receive long-acting injectable antipsychotics, be psychiatrically hospitalized (including physically restrained), use emergency or crisis services for psychiatric care and receive substance abuse treatment (Bommersbach et al., 2023; Browne & Mohamed, 2023; Storosum et al., 2023). Similarly, in the UK Black communities are more likely to receive unwanted services rather than the services they desire; ultimately, inappropriate services can produce delays in accessing treatment and greater police involvement (Keating & Robertson, 2004). In a meta-ethnography of healthcare services

in the UK, Bansal et al. (2022) found that current models of treatment are a major barrier to person-centered care. Specifically, treatment lacks due to client fears that cultural preferences and beliefs could be pathologized, that service providers would misunderstand them and that services lack cultural competency and diverse staff (Bansal et al., 2022). Other issues identified were client's perception that general practitioners, which are the first contact for mental health services in the UK, overly rely on medication instead of talking and trauma informed therapy (Bansal et al., 2022). Another theme identified from Bansal et al.'s (2022) meta-ethnography was that participants felt like they were working against a system that was not designed to support them, but instead contributed to feelings of victimization and harm.

Other barriers to treatment seeking behaviour for Black individuals include stigma, misattribution of symptoms and cost of care (Keating & Robertson, 2004; Oluwoye & Stokes, 2023); a greater level of mistrust for mental health services was also found for Black and minority individuals compared to White individuals (Henderson et al., 2014). Henderson et al. (2014) further investigated the association between mistrust of healthcare services and diagnosis. Due to the nature of schizophrenia and its symptomology, which includes persecutory beliefs, a possibility exists that clients diagnosed with schizophrenia could report more unfair treatment when using services. However, there was no connection between schizophrenia and mistrust or reporting unfair treatment, in fact complaints about services rarely arise because of psychotic symptoms (Henderson et al., 2014). In Henderson et al.'s (2014) study an association was found between symptom severity and mistrust and unfair treatment; clients with more severe symptoms may have more interactions and contact with staff, thus increasing the risk of unfair treatment simply due to a greater number of interactions.

Henderson et al. (2014) posit that a few factors could lead to mistrust including personal experiences with discrimination, hearing about others negative experiences with mental health services and not feeling listened to by staff (Henderson et al., 2014). Alternatively, Keating and Robertson (2004) found that mistrust may stem, in part from fear, specifically due to negative experiences with mental health services in the past. In fact, some of the clients in Keating and Robertson's (2004) study reported that controlling and restrictive treatments were reminders of discrimination faced in other contexts (e.g., schools, police/criminal justice system, etc.) and some individuals expressed fears that admittance to the mental health services and the hospital would eventually lead to their death (Keating & Robertson, 2004). Family members and caretakers also reported fears regarding professional power and the difficulties they faced when challenging assessments or decisions made by clinicians (Keating & Robertson, 2004). On the other hand, professionals reported fears particularly related to violence and aggression and were likely to use 'control and restraint' and seclusion in an arbitrary way; for example, one of the clients stated "They didn't pin me down, they just grabbed me arms and legs and put me in seclusion. I mean I was able to talk with people so they could have said to me, you know, you're not allowed in the kitchen..." (Keating & Robertson, 2004). Professionals were also uncomfortable talking about race and culture in Keating and Robertson's (2004) study and one clinician from the study reported talking to management "off the record" when discussing racism. Negative stereotypes regarding Black clients also affected clinicians in the study, in that fear stopped some staff from engaging and talking with Black clients (Keating & Robertson, 2004).

Keating and Robertson (2004) concluded that many professionals have a fear of Black individuals but are unable to directly address it. Moreover, the professionals in Keating and

Robertson's (2004) study reported that when dealing with clients who they viewed as violent or dangerous, restraint procedures were the most common method. Thus, clinician fear, rooted in negative stereotypes, may directly explain higher levels of restraint in Black clients compared to White clients. Considering both barriers in accessing mental health services and receiving lower quality services, Black individuals may avoid treatment for as long as possible until they are in a state of crisis. Delayed treatment seeking could then reinforce stereotypes that Black individuals have more severe disorders than White individuals (Keating & Robertson, 2004) and thus fuel clinician's fears and use of restraint creating a vicious cycle.

Antipsychotics

Antipsychotic medication is the main treatment for schizophrenia, as well as psychosocial interventions like cognitive behavioural therapy, family intervention and social skills training (Maura & Weisman de Maamini, 2017). First-generation antipsychotics (the first group of medications to reach the market) have higher risks of serious side-effects compared to second-generation antipsychotics (Sultana et al., 2019); however, compared with typical antipsychotics, some second-generation antipsychotics are more likely to cause weight gain and metabolic syndrome (McGrath et al., 2008). Metabolic syndrome has been associated with a twofold increase in mortality (McGrath et al., 2008); consequently, proper management of antipsychotics by both the client and the clinician remains crucial to the health and safety of the individual. Sultana et al., (2019) compared antipsychotic usage in Italy, Spain, the UK and the USA, they found that overall, second-generation antipsychotics (SGA) were used more than first-generation antipsychotics (FGA) for patients diagnosed with schizophrenia. However, there was variation among the countries with SGAs preferred more in the USA and less in Europe (with the lowest preference found in the UK) (Sultana et al., 2019), and overall prescribing patterns were

heterogeneous across the countries. Similar rates for the initiation of antipsychotic therapy for European and US populations (86-90% and 74-79% respectively) diagnosed with schizophrenia, but different initiation rates for clients diagnosed with schizoaffective disorder in European and US populations (18-25% and 56-64% respectively) were discovered (Sultana et al., 2019). Despite the difference in prescribing rates, Sultana et al. (2019) found low persistence to antipsychotic treatment across all populations studied, with less than 50% of patients with schizophrenic disorders continuing their treatment at one year. Other studies have indicated that 20-30 percent of clients on medication relapse within the first two years of treatment despite complying with the medications (Bani-Fatemi et al., 2019).

According to Bani-Fatemi et al. (2019) approximately 30 percent of clients with schizophrenia are treatment resistant, which is defined as little or no symptom reduction with the use of two antipsychotics after a 6-week trial period. Since stressful life events have been associated with treatment resistance, Bani-Fatemi et al. (2019) evaluated the connection between migration to Canada and treatment-resistant schizophrenia by comparing White Europeans (n=60), Africans (n=60) and East Asians (n=90). Ethnic data was collected through self-report ethnicity and geographical origin as measured with genetic markers (Bani-Fatemi et al., 2019). Findings from their study indicated that the duration of the illness and current prescriptions for Clozapine were associated with treatment resistance (Bani-Fatemi et al., 2019), however migration to Canada was not associated with treatment-resistant schizophrenia. When genetic markers and ancestry were evaluated, European ancestry was not associated with treatment resistance, African ancestry was protective against resistance, and Asian ancestry was associated with resistance to treatment (Bani-Fatemi et al., 2019); however, the sample size for participants from African backgrounds was small so the generalizability of the findings is unclear. Overall,

Bani-Fatemi et al. (2019) conclude that evidence lacks linking migration and non-White European ethnicity (both for self-report and genetic analysis) to treatment-resistant schizophrenia.

Of the second-generation antipsychotics used, Clozapine is widely used for treatment-resistant schizophrenia (Pai et al., 2022) which likely reflects the APA's prescribing criteria for the drug (Bani-Fatemi et al., 2019). Clozapine is one of the most efficacious antipsychotics (Andreou et al., 2023; Lobos et al., 2010). In Australia, atypical or second-generation antipsychotics are recommended for naive schizophrenia; whereas, for clients in the acute phase of schizophrenia psychiatrists often prescribe atypical oral antipsychotics and then when the client is stable, prescribe atypical long-acting therapy (e.g., paliperidone palmitate, aripiprazole long-acting injection) (Pai et al., 2022).

Compared to other countries, psychiatrists in the USA underutilize Clozapine, especially for minority clients with studies demonstrating that psychiatrists both prescribe Clozapine less and discontinue prescriptions for Black clients as compared to White clients (Andreou et al., 2022). Psychiatrists also prescribe higher doses of antipsychotics and fewer atypical psychotics to Black clients (Bommersbach et al., 2023). Although, concerns for leukopenia in racially minoritized groups may help explain clinicians' underutilization of Clozapine, particularly because studies have demonstrated that Black individuals more frequently have lower baseline absolute neutrophil counts as compared to White patients and are more commonly associated with a diagnosis of benign ethnic neutropenia (BEN) (Andreou et al., 2023). Alternatively, other studies have indicated that neither are Black clients at increased risk for Clozapine-induced blood dyscrasias as compared to Whites, nor are baseline leukopenia or BEN risk factors for Clozapine-induced agranulocytosis; thus, the formal diagnosis of BEN may exacerbate access

barriers to Clozapine for minoritized patients (Andreou et al., 2023). Moreover, Andreou et al. (2023) find that most people diagnosed with BEN represent a normal variant population, thus formal diagnoses are likely to do more harm than good particularly because BEN does not meaningfully reflect actual disease or side effect risk (Andreou et al., 2023).

Storosum et al. (2023) evaluated the efficacy of antipsychotic medications for Black and White clients in the Netherlands. Five atypical antipsychotic medications were included in the study and data were obtained from 5233 individuals through a double-blind, randomized, placebo controlled, short-term efficacy trials. They collected baseline data for severity and negative symptoms, as well as age and gender. Overall, they found that White and Black clients with schizophrenia reported similar responses and symptom improvement; a finding that was independent of baseline measures, age, and gender. Moreover, Storosum et al. (2023) argue that genetic profiles vary widely within ethnic groups and that evidence that ethnicity is related to adverse side-effects from antipsychotic medications lacks; particularly because their 51 study review of side-effects found limited evidence for ethnic differences in the risk of adverse events or side-effects (Storosum et al., 2023).

Cognitive Behaviour Therapy (CBT)

Cognitive behaviour therapy has been shown to be effective for clients with schizophrenia and also helps reduce client distress, anxiety, depression, positive symptoms and improves quality of life (Maura & Weisman de Mamani, 2017; Phiri et al., 2019). Although for minority or Black clients, the dropout rate is higher and the outcomes are worse than for White clients (Phiri et al., 2019; Rathod et al., 2013) and some of the results are mixed regarding the efficacy of CBT treatment relating to methodological issues and long-term benefits (Maura & Weisman de

Mamani, 2017). Moreover, some researchers have criticized CBT for its eurocentrism and lack of cultural sensitivity (Maura & Weisman de Mamani, 2017; Phiri et al., 2019), although multiple researchers have attempted to create culturally inclusive CBT frameworks. For evidence-based treatment, cultural adaptation refers to the “systematic modification of an evidence-based treatment intervention protocol to consider language, culture, and context in such a way that it is compatible with the client’s cultural patterns, meanings, and values” (Maura & Weisman de Mamani, 2017); some of the other important themes for adaptation include collectivism, spirituality, and discrimination. Meta-analyses regarding culturally adapted evidence-based approaches have showed promising results, in that they may be more effective than traditional, one-size-fits all, approaches (Maura & Weisman de Mamani, 2017).

Some of the features considered in culturally adapted CBT for psychosis include culturally based client health beliefs, ascription of illness, help-seeking behaviours, racism/discrimination, role of religion/spirituality (Maura & Weisman de Mamani, 2017). Rathod et al. (2013) evaluated the effectiveness of culturally adapted CBT for minority clients in the UK through a randomized controlled trial, employing Tseng et al.’s (2005) framework. Overall, the clients in the culturally adapted CBT group had low rates of attrition as well as a significant reduction in symptomatology (Rathod et al., 2013); although Rathod et al. (2013) report that the study was limited as no comparison was made between standard CBT and the culturally adapted CBT. One study from South Africa attempted to compare traditional group-based psychoeducational program to a culturally adapted design, individuals in the culturally adapted group showed higher levels of comprehension and retention as well as greater insight into their illness than individuals in the traditional group (Maura & Weisman de Mamani, 2017; Poole et al., 2010).

With regard to rehabilitation services for people with severe mental disorders, providers in the US were more likely to close referrals of Black individuals than White individuals; they also spent less money on treatment services for Black clients (DeTore et al., 2023). Some studies have also found higher levels of treatment attrition for minorities due to weak client-counselor alliances possibly explained by cultural differences, incongruent beliefs and expectations exacerbated by providers who inconsistently provide culturally sensitive care (DeTore et al., 2023), thus, even if Black individuals participate in services clinician biases may render the services ineffective. In one study, when sociodemographic variables were controlled for, job discrimination and health discrimination were independently associated with being Black and accounted for a majority of the different experiences between Black and White individuals (Bommersbach et al., 2023); specifically, Black individuals were significantly less likely to receive mental health and psychiatric treatment than Whites (Bommersbach et al., 2023, DeTore et al., 2023). Yet when given cognitive and vocational rehabilitation services together, both Black and White individuals with severe mental disorders demonstrated significant gains including improved cognition, obtained work, earned more wages, and worked more days than the group receiving only vocational services (DeTore et al., 2023). Thus, cognitive rehabilitation may offer promise for individuals with severe disorders and improve treatment outcomes for minority groups.

Maura and Weisman de Mamani (2017) warn that variability in approaches to culturally adapted, evidence-based treatments and interventions makes it difficult to identify which modifications improve outcomes. Phiri et al. (2019) attempted to evaluate the therapeutic alliance and the role of client-initiated self-disclosure in culturally adapted CBT. They conducted individual interviews with clients, therapists, mental health practitioners, and a focus group of

lay members. For the study self-disclosure was defined as “a conscious, intentional technique in which clinicians share information about their lives outside the counselling relationship” (Simone et al., 1998 as cited by Phiri et al., 2019). Self-disclosure by the therapist may serve an important function particularly for minority clients. Specifically, clients from Black and minority groups may not disclose as much in a therapeutic environment but therapist self-disclosure (TSD) may encourage them to do so; although some cultural variation exists, for example Mexican-American clients may not respond as well to TSD at the beginning of treatment, but TSD may become more important to the client over time (Phiri et al., 2019).

Overall, Phiri et al. (2019) found that the relationship between the client and the therapist occur simultaneously in that at the beginning both groups are assessing each other. Specifically, clients may test clinicians by asking questions as a way of determining trust (Phiri et al., 2019). Black clients may struggle with trust specifically because of years of experience and previous negative encounters with services (Phiri et al., 2019). TSD provides powerful benefits for Black and minority clients and clinicians, in that it strengthens the therapeutic alliance which has been shown to be causally related to decreasing symptoms (Phiri et al., 2019). Moreover, TSD helps the client feel secure and builds trust. Furthermore, the way a therapist responds may be as important as the response itself, in that warmth from the clinician as well as self-disclosure may help build trust and feelings of respect (Phiri et al., 2019).

Religiosity

Researchers have recently begun to delve into the relationship between schizophrenia and religiosity, with published articles increasing 471 percent from the 1980s to the 2000s (Gearing et al., 2011). Religion is often conceptualized as an “organized and established set of sacred beliefs, practices, and rituals practiced by a group of people” (Koenig, 2009 as cited by Gearing

et al., 2011) alternatively, spirituality often appears as an “individualized and personal structured set of beliefs” (Koenig, 2009 as cited by Gearing et al., 2011). Religiosity may be linked to mental health both positively and negatively in a variety of ways including through symptom severity and presentation, coping strategies, adherence to treatment, among others (Gearing et al., 2011; Grover et al., 2014; Grover et al., 2017). Despite increasing research regarding religiosity and schizophrenia, studies have demonstrated at times contradictory results and often religiosity becomes confounded with culture (Gearing et al., 2011), which may complicate the assessment process in that normative expressions of religion may be pathologized. Particularly because delusions (“fixed erroneous or false beliefs that usually involve misinterpretation of experience/perceptions, despite proof to the contrary”) and hallucinations (“sensory perceptions without external stimulation”) may normally appear in certain religions in some cultures (Gearing et al., 2011).

Regarding delusions, Paolini et al. (2016) evaluated delusion items in the Scale for the Assessment of Positive Symptoms and found four different factors: delusions of being controlled, thought broadcasting, thought insertion and thought withdrawal; grandiose delusions, religious delusions, and delusions of sin or guilt; mind reading and delusions of reference; delusions of jealousy. In further analysis, Paolini et al. (2016) reported that grandiose and religious delusions will load together on a distinct factor, or with delusions of sin/guilt, or with delusions of reference and sin/guilt; thus in practice, for clients with religious beliefs analyzing the other delusion domains for abnormality or determining the presence of grandiose delusions as well as religious or sin/guilt delusions may help the clinician determine if the religious beliefs are normal or an indication of underlying pathology. Persecutory delusion domains were most

prevalent in Paolini et al.'s (2016) study of first-episode psychosis clients, however they claim that in general paranoid delusions are the most common type.

For hallucinations, the most common type is auditory; visual and somatic are the next most common hallucinations; ultimately hallucinations are not homogeneous (Galletti et al., 2017). In Galletti et al.'s (2017) study, correlations were found between hallucination and delusion domains in first episode psychosis clients (n=247). Specifically, both auditory and non-auditory hallucinations were associated with delusions of jealousy and guilt/sin. Non-auditory hallucinations were modestly correlated with grandiose/religious delusions but not with paranoid delusions, whereas the opposite was true for auditory hallucinations which correlated with paranoid delusions and not grandiose/religious delusions (Galletti et al., 2017). The different associations could help clinicians distinguish between normal religious beliefs and pathology by determining if both delusions and hallucinations are present. Siddle et al. (2002) also argue that because the general population may experience similar religious phenomena to clients who experience delusions, determining the presence of other psychotic symptoms remains paramount to an accurate diagnosis.

Some of the most common themes among religious delusions are persecution by spiritual entities, being controlled by spiritual entities, and delusions of sin/guilt or grandiose delusions (Grover et al., 2014). When compared to other types of delusions (e.g., thought broadcasting, body/mind control, grandiose, etc.) the religious subset is often held with more conviction than the other types (Grover et al., 2014; Siddle et al., 2002). Moreover, in Siddle et al.'s (2002) study, clients with religious delusions showed greater symptom severity and delayed treatment seeking when compared to the group without delusions, they were also more likely to be prescribed with higher levels of antipsychotics than the other group (Siddle et al., 2002). Siddle

et al. (2002) found that clients with religious delusions reported higher religiosity than the comparison group without delusions. However, clients could also experience religious delusions without being religious (Rudalevičienė et al., 2008; Siddle et al., 2002); thus, the relationship between religiosity and delusions remains variable. Rudalevičienė et al. (2008) argue that religious delusions for clients with schizophrenia are associated with education and marital status rather than the importance of faith. For example, divorced clients experienced more delusions compared to married clients (Rudalevičienė et al., 2008); gender was also associated with different delusion themes. For women, religious delusions presented as being a saint whereas for men, religious delusions presented as being God (Rudalevičienė et al., 2008).

Oh et al. (2018) reported that although attending religious services was associated with lower odds of endorsing a psychiatric disorder, regarding spirituality/spiritual values as important was associated with greater odds of endorsing psychiatric disorders. Alternatively, other studies have found that clients who report religious or spiritual delusions value religion as much as clients who do not experience the delusions (Grover et al., 2014) and may act similarly to the general population regarding religious attendance, private religious activities, and intrinsic religiosity (Grover et al., 2017). Taken together findings vary regarding the relationship between religiosity and delusions, with some suggesting that the degree of religiosity may not influence hallucinations or delusions, others reporting greater symptom severity, and others still reporting fewer symptoms (Grover et al., 2014; Grover et al., 2017).

Delusions are also susceptible to variation from culture to culture (Gearing et al., 2011; Grover et al., 2014) differences in religiosity, in normative ways of spiritual expression, and in coping with death or trauma could lead to alternative rates of endorsement of certain symptoms like auditory perceptions (Earl et al., 2015; Gearing et al., 2011; Paksarian et al., 2016). For

example, in one poll from the USA in the 1990s, 10 percent of non-psychotic individuals in the sample reported that they had personally spoken with the devil (Siddle et al., 2002); Siddle et al. (2002) further claim that religious hallucinations appear to be commonly experienced by both the general population and individuals diagnosed with psychotic disorders. Religious hallucinations and delusions can occur with religious (e.g., prayer, sin, possession, God, Jesus, devil, profit, etc.) or supernatural themes (black magic, spirits, demons, being bewitched, sorcery, etc.) (Grover et al., 2014), additionally some clients with schizophrenia may use supernatural phenomena as an explanatory model for schizophrenia (e.g., witches, spiritual and mystical factors, spirit intrusion, divine wrath, planetary influences, etc.) (Grover et al., 2014). In India, some researchers have found that as many as 70 percent of clients have at least one supernatural explanation for schizophrenia (Grover et al., 2014).

Gearing et al. (2011) completed a review of 70 studies that addressed the relationship between schizophrenia and religiosity and discovered both risk and protective factors associated with religiosity. For example, Christian clients evidence more religious delusions in general compared to other religions, but one of the central themes of Christians' delusions were sin and guilt (Gearing et al., 2011). However, Islam, Judaism, Buddhism, Hinduism, and other religions were also associated with risk to the individual (Gearing et al., 2011). For example, Judaism was associated with experiencing more hallucinations during the night due to beliefs of greater susceptibility to demons or evil spirits at night (Gearing et al., 2011; Grover et al., 2014). Culture also influenced the reported hallucinations and beliefs, in one of the studies included in Gearing et al.'s (2011) review, supernatural themed delusions and hallucinations were reported more by Korean clients than Korean-Chinese or Chinese clients. Some studies have also linked religious/spiritual delusions with delayed treatment seeking and reduced satisfaction in clients

who exhibit the symptoms (Grover et al., 2014). Alternatively, other studies have found that religiosity reduces risk. In particular, clients who are religious may exhibit more social integration, a reduced risk of attempting suicide, using substances and smoking, and may have a better quality of life and prognosis in addition to fewer negative symptoms (Grover et al., 2014; Grover et al., 2017).

For clients with schizophrenia, religion as a coping tool demonstrates mixed results. Some of the negative strategies include spiritual discontent, demonic reappraisal, passive religious deferral, negative reappraisals of God's power, among others (Grover et al., 2014; Grover et al., 2017). Alternatively positive religious coping strategies include purification/forgiveness, religious helping, seeking support from clergy, belief that life has greater benevolent meaning, among others (Grover et al., 2014; Grover et al., 2017). Studies vary regarding the percentage of clients who use religion to cope with schizophrenia ranging from 45 to 80 in different samples; yet religious coping has been positively associated with wellbeing for clients diagnosed with schizophrenia (Grover et al., 2014). In Grover et al.'s (2017) study about 98 percent of clients (n = 100) used both positive and negative religious coping, but the means were higher for the positive subscale than the negative subscale indicating more positive coping.

Seeking religious figures/healers may be the first step in managing mental disorders (Smolak et al., 2013); in fact, in India many clients will request help from religious healers and that support is considered supplementary to medical treatment (Grover et al., 2014). In Smolak et al.'s (2013) review, it was found that conceptions around religion may influence help-seeking behaviour, in that religion may guide treatment preferences toward unorthodox or alternative treatments. Religious figures especially for Black individuals may offer more social support than the healthcare system (Bommersbach et al., 2023) and could be easier to access. In fact,

Bommersbach et al. (2023) reported that Black individuals were less likely to receive psychiatric treatment but were more likely to attend religious services, which they ascribed to experienced discrimination influencing Black individuals to avoid the formal treatment system. Other studies have found that churches and religious groups may offer social support by helping individuals cope with stressful life events like racism (Bommersbach et al., 2023) and are an important social asset for individuals with schizophrenia. Although, for individuals who report a high degree of religiosity, there is a decreased likelihood of utilizing professional mental health services (Bommersbach et al., 2023), some specific religious beliefs may deter the individual from seeking treatment. However Black individuals may strongly benefit from a healthcare-religious service alliance, in that religious figures may have the ability to improve Black individuals' trust in the healthcare system and healthcare providers and mental health professionals may be able to gain back the trust of Black individuals by working with religious institutions (Bommersbach et al., 2023; Nagendra et al., 2022).

Chapter 6: Summary

Black individuals may follow different pathways to care than other groups (Oluwoye & Stokes, 2023). However, once in the medical system while attempting to access services, Black individuals receive poorer quality services than White individuals (Browne & Mohamed, 2023; Storosum et al., 2023). Although, when Black individuals receive quality treatment they show greater symptom reduction than White individuals (Browne & Mohamed, 2023) and show similar success rates when given antipsychotic medications (Storosum et al., 2023). Alternative pathways like partnerships between psychologists and religious figures or community-based crisis services may benefit Black individuals by supplementing their current social support and helping them cope and heal. Moving away from a medical approach with symptoms and labels to

a holistic approach could also benefit clients by considering the context in which they live and helping them thrive in that context (Bansal et al., 2022).

Chapter 7: Discussion and Conclusion

Although a plethora of literature exists regarding *race*, schizophrenia, and racism defining the association and any causal relationships between the concepts remains elusive. Scholars continue to debate the idea and definition of *race* from essentialist views to constructionist to a combination of the two, yet when pressed to answer the question: What is race? it becomes even more unclear (Morning, 2011). As the debate regarding *race* continues, the literature suggests that definitions of *race* vary over time, from study to study and from person to person (De Wolfe et al., 2021; Obach, 1999; Richeson & Sommers, 2016). Yet, ignoring ‘*race*’ entirely becomes harmful to individuals particularly because nationwide trends like racism only appear when considering the individual’s *race* on a societal level. Moreover, some groups may be more susceptible to certain illnesses (Robertson et al., 2022), although the medical community has also caused harm to minority groups through the use of the term ‘*race*’ (De Wolfe et al., 2021; Sebring, 2021). Regardless of the biological or social basis of ‘*race*,’ the term has come to hold symbolic meaning and when used with care and a very specific purpose, ‘*race*’ can be a useful tool for researchers and psychologists for studying prejudice and discrimination. Researchers, presently, have used *race* as a tool to consider disparities between Black and White individuals in the diagnosis of schizophrenia (Anglin & Lui, 2023; Hampton, 2007; Gordon et al., 2023; Rakhshan Rouhakhtar et al., 2023; Schwartz & Blankenship, 2014).

Scientific understandings, and definitions of schizophrenia have also changed over time; yet the exact cause of schizophrenia continues to remain out of reach. Some researchers have claimed that the final pathway and the common feature underlying schizophrenia is the dysregulation of striatal dopamine, which results from a developmental cascade started much earlier in life (Stilo & Murray, 2010), however due to the brain’s complexity several

neurotransmitter systems are likely affected, like the glutamatergic system among others (Janoutová et al., 2016). Presently, a multitude of risk factors have been identified for schizophrenia including genetic susceptibility, maternal and paternal characteristics (education level and health; age respectively), urbanicity, obstetric complications, infections, childhood adversity, cannabis use, migration, gender, socioeconomic status, winter births, among others (Häfner, 2019; Janoutová et al., 2016; Mäki et al., 2005; McDonald & Murray, 2000; Robinson & Bergen, 2021; Pugliese et al., 2019; Stilo & Murray, 2010). Schizophrenia is a complex disorder in which genetic and environmental influences are intertwined. Particularly, familial risk and environmental factors could have synergistic effects on increasing the risk for psychiatric disorders (Robinson & Bergen, 2021).

Current research and evidence does not support claiming that one factor alone, singularly, causes schizophrenia. Yet when the effects of racism and racialized discrimination are compared to the risk factors of schizophrenia it seems reasonable that Black individuals could be at a greater risk for schizophrenia due to the consequences of discrimination like: lower socioeconomic status (DeTore et al., 2023), greater childhood adversity (witnessing violence and experiencing racism at a young age) (Schmitt et al., 2014), lower levels of education (as a result of structural inequality in school systems) (Gillborn, 1997), greater obstetric complications and infection (as a results of poorer quality healthcare) (Ajilore & Thames, 2020; Amato et al., 2021). So, it remains possible that the effects of racism put Black individuals at increased risk for schizophrenia, not because of their *'race'* but because of their experience with discrimination and all of its effects. On the other hand, racism could also function through clinicians and result in incorrect diagnoses for Black individuals or poor-quality care (Eack et al., 2012; Jegarl et al., 2023). As such, psychologists and mental health providers have a responsibility to all clients, but

particularly to Black and minority clients to ensure equal treatment which entails accurate, bias-free assessments and ends with positive service outcomes.

Frameworks like critical race theory and intersectionality, which are generally omitted in schizophrenia research (Nagendra et al., 2023) could help provide psychologists with the tools to disrupt structural racism in a variety of ways. To begin with, including more diverse people, from varied backgrounds on editorial boards for psychological research (Ben-Cheikh et al., 2021; De Wolfe et al., 2021) is a good start. For example, in the USA there is only a moderate representation of non-White authors in schizophrenia research (Nagendra et al., 2023). Lewis et al., (2023) found that recruiting and retaining Black and Afro-Latina employees creates an identity-safe and welcoming environment for Black women in the workplace; thus, in the field of psychology additional representation can improve feelings of safety in the workplace and also increase studies that target issues that minorities face. Regarding underlying, and normalized racism, an International Antiracist code of Ethics (Ben-Cheikh et al., 2021) could be useful in disrupting structural racism by labeling psychological articles with a disclaimer at the top of the paper stating that the article contains racist content. Labeling papers could also aid the reader by disrupting beliefs that race only has biological underpinnings and by highlighting the way race is also socially constructed.

Presently, genetic research is strongly overrepresented by European ancestry (Robinson & Bergen, 2021), cognitive behaviour therapy is Eurocentric (Phiri et al., 2019) and questionnaires and assessments for schizophrenia are steeped in White normatively (Nagendra et al., 2022). By revamping schizophrenia diagnosis questionnaires and studying more Black clients the assessments would be more likely to reflect the reality of the client, additionally gathering baseline data from healthy Black individuals will help reestablish a general baseline for

comparison. Using the assessments on diverse populations to elicit a baseline would also help reduce overdiagnosis or misdiagnosis of minority populations. For instance, some studies compared Black and White individuals with the same latent levels of suspiciousness, but Black individuals scored higher on the paranoia assessments than their White counterparts (Nagendra et al., 2022). Simply put, current measures of paranoia are not valid for Black individuals.

Assessments that also consider cultural suspicion or adaptive paranoia, would help provide context for normal responses to experiencing racism and discrimination. Moreover, Came and Griffith (2018) find that measuring racism presents issues for researchers so creating both qualitative and quantitative tools to evaluate interventions remains paramount, ultimately gathering accurate baseline data will aid true comparisons between groups. Data regarding inequalities and the effectiveness of interventions can also direct intervention efforts (Came & Griffith, 2018), further helping minorities and clients with schizophrenia.

Besides an accurate diagnosis of schizophrenia, client outcomes also need to be addressed by psychologists. Culturally adapted CBT appears promising (Maura & Weisman de Mamani, 2017; Phiri et al., 2019) and race-based stress interventions for minorities exposed to trauma has also shown promise by incorporating racial identity into group interventions that are designed to address psychological stress in discriminatory contexts (Anglin & Lui, 2023). Using a humanistic approach, psychologists can treat people with PTSD symptoms from racism, through active listening, empathy and in such a way that avoids pathologizing normal struggles with racism (Perrin, 2013); listening to minority clients could also reduce mistrust and improve the therapeutic alliance. The psychologist must respect the perceptions of the client who experienced the racism since labeling incidents as racist for the client may cause further harm (Perrin, 2013). For Black individuals diagnosed with schizophrenia, understanding alternative

pathways to care and treatment seeking behaviour can help psychologists better understand the realities of discrimination that Black individuals face. Taking services to the community, through religious or community-based crisis centers could also help clients (Keating & Robertson, 2004). Thus, psychologists who work with the religious community may help reduce barriers to healthcare access, improve the client's current social connections, and ultimately better help the client recover and succeed.

Considering the barriers to care and the evidence suggesting that schizophrenia may be an inflammatory illness, improving access and reducing costs of public healthcare could also significantly benefit individuals diagnosed with schizophrenia. In fact, some researchers have argued that nutrient supplementation is a safe, affordable, and easily accessible which may make it an excellent public health option and alternative to traditional antipsychotics (Mitra et al., 2017), moreover anti-inflammatory substances (e.g., aspirin, estrogen, N-acetylcysteine, minocycline, etc.) have been shown to reduce symptom severity in clients with schizophrenia (Comer et al., 2020). Furthermore, because obstetric complications are a risk factor for schizophrenia, improving healthcare services for pregnant women (particularly pregnant minority women) could help reduce risk by ensuring that the women have higher quality care, monitoring, and proper nutrition during and after pregnancy.

Interestingly, just the threat of infection has been shown to influence political choices, moral values, and us versus them thinking (Kramer & Bressan, 2021). Considering the behavioural immune system is also a necessary step to combatting racism, in that prejudice is linked directly to the threat of contagion, so by promoting public health, providing universal healthcare, and increasing familiarity through interaction with others (even just virtually) could go a long way in reducing the threat of infection and also racism (Kramer & Bressan, 2021).

Considering directly the perpetrators of racism is also necessary, and psychologists have even recommended diagnoses like “prejudiced personality” or “intolerant personality disorder” for racist people in the DSM (Thomas, 2014); although it was never added. In 2012, researchers completed a study in which half of the subjects were either given propranolol (which is a common beta-blocker used for heart disease treatment and has some anti-inflammatory properties) or a placebo, and then the Implicit Attitude Test to measure racism. Subjects who received the propranolol scored significantly lower, and endorsed fewer biased attitudes, on the Implicit Attitude test than the placebo group (Thomas, 2014); perhaps, medication may present a useful tool in reducing racism as well. Moreover, research has suggested that reducing inflammation can also diminish aggression, in that omega-3 reduces aggression in children and adults and also reduces the inflammatory response (Kramer & Bressan, 2021). Thus, once again, increasing access to public healthcare can help reduce inflammatory responses for perpetrators of racism, targets of racism, and individuals with schizophrenia; ultimately helping reduce aggression, risk of infection, and symptomology respectively.

Other strategies include, providing White individuals with trainings that target empathy building and also make them aware of the costs they bear from their own racism (Perrin, 2013). In the UK “Whiteness workshops” were introduced to clinical psychology trainees in order to evaluate the history of *race*, discuss racism, and privileges associated with Whiteness (Wood & Patel, 2017). Other researchers have mirrored Wood and Patel (2017), in reporting that staff for inpatient services need greater support addressing needs of the community and could benefit from work-based training and problem-solving programs; moreover staff need ‘safe’ spaces to discuss concerns about *race* and culture (Keating & Robertson, 2004). However, Came and

Griffith (2018) argue that promoting cognitive and skill development for both targets of racism and allies, is “necessary but insufficient” for addressing racism.

Conclusions

“It is racism, not *race* that causes disparities” (Nagendra et al., 2022), psychological research often reflects and supports racism by remaining silent around historically marginalized groups or by failing to explicitly and actively address discrimination (Ben-Cheikh et al., 2021; Noltemeyer & Grapin, 2021). When high- and low- income countries are compared, higher rates of chronic disability and dependency occur in high- income countries, indicating that something essential for recovery is missing (Stilo & Murray, 2019). Applying critical race theory, which uses a conceptual lens that considers racialized power when analyzing phenomena and conducting science (Salter & Adams, 2013), could help reduce the higher rate of chronic disability. Racism appears as a “wicked” problem, highly resistant to solutions, but largely impactful in unequal outcomes; critical race theory as applied to the field of psychology could improve outcomes for Black individuals by ensuring fair treatment outcomes or treatments that consider the realities of racialized discrimination, improving accurate representation in psychological studies and research, and creating identity-conscious perspectives that illuminate race in the context of social phenomena (Salter & Adams, 2013). Recognizing discrimination and actively supporting targets of racism could accelerate healing and improve outcomes. Ultimately, disparities have been found between Black and White individuals in the diagnosis of schizophrenia and although the cause remains, to some extent, unknown, the imbalance offers psychologists an opportunity to disrupt the cycle of racism.

References

- Ajilore & Thames (2020) The fire this time: The stress of racism, inflammation and COVID-19.pdf
- Amato, K. R., Arrieta, M. C., Azad, M. B., Bailey, M. T., Broussard, J. L., Bruggeling, C. E., ... & Kuzawa, C. W. (2021). The human gut microbiome and health inequities. *Proceedings of the National Academy of Sciences*, 118(25), e2017947118.
- Andreou, A., Jayaram, J., Walker, A., Tek, C., & Williams, J. C. (2023). Re-examining the utility and validity of benign ethnic neutropenia: A narrative literature review. *Schizophrenia Research*, 253, 48-53.
- Anglin, D. M. (2023). Racism and social determinants of psychosis. *Annual review of clinical psychology*, 19.
- Anglin, D. M., & Lui, F. (2023). Racial microaggressions and major discriminatory events explain ethnoracial differences in psychotic experiences. *Schizophrenia Research*, 253, 5–13. <https://doi.org/10.1016/j.schres.2021.10.014>
- Apfelbaum, E. P., Grunberg, R., Halevy, N., & Kang, S. (2017). From ignorance to intolerance: Perceived intentionality of racial discrimination shapes preferences for colorblindness versus multiculturalism. *Journal of Experimental Social Psychology*, 69, 86–101. <https://doi.org/10.1016/j.jesp.2016.08.002>
- Balogun, B. (2020). Race and racism in Poland: Theorising and contextualising ‘Polish-centrism.’ *The Sociological Review*, 68(6), 1196–1211. <https://doi.org/10.1177/0038026120928883>
- Bansal, N., Karlsen, S., Sashidharan, S. P., Cohen, R., Chew-Graham, C. A., & Malpass, A. (2022). Understanding ethnic inequalities in mental healthcare in the UK: A meta-ethnography. *PLOS Medicine*, 19(12), e1004139. <https://doi.org/10.1371/journal.pmed.1004139>
- Bani-Fatemi, A., Tasmim, S., Graff, A., Gerretsen, P., Dada, O. O., Kennedy, J. L., Hettige, N., Zai, C., de Jesus, D., de Bartolomeis, A., & De Luca, V. (2019). The effect of ethnicity and immigration on treatment resistance in schizophrenia. *Comprehensive Psychiatry*, 89, 28–32. <https://doi.org/10.1016/j.comppsy.2018.12.003>
- Barnes, A. (2013). Race and schizophrenia diagnoses in four types of hospitals. *Journal of Black Studies*, 44(6), 665–681. <https://doi.org/10.1177/0021934713506116>
- Ben-Cheikh, I., Beneduce, R., Guzder, J., Jadhav, S., Kassam, A., Lashley, M., ... & Tran, D. Q. (2021). Historical scientific racism and psychiatric publications: A necessary international anti-racist code of ethics. *The Canadian Journal of Psychiatry*, 66(10), 863-872.
- Benn Torres, J. (2020). Anthropological perspectives on genomic data, genetic ancestry and race. *American Journal of Physical Anthropology*, 171, 74-86.
- Bettache, K. (2020). A call to action: The need for a cultural psychological approach to discrimination on the basis of skin color in Asia. *Perspectives on Psychological Science*, 15(4), 1131–1139. <https://doi.org/10.1177/1745691620904740>
- Bhati, M. T. (2013). Defining psychosis: The evolution of DSM-5 schizophrenia spectrum disorders. *Current Psychiatry Reports*, 15(11). <https://doi.org/10.1007/s11920-013-0409-9>
- Blackwell, D. (2021). A history of the struggle against racism in the social unconscious of group analysis. *Group Analysis*, 54(3), 320-336.

- Bobo, L. D., & Fox, C. (2003). Race, racism and discrimination: Bridging Problems, methods and theory in Social Psychological Research. *Social Psychology Quarterly*, 66(4), 319. <https://doi.org/10.2307/1519832>
- Bommersbach, T. J., Rhee, T. G., Stefanovics, E. A., & Rosenheck, R. A. (2023). Comparison of Black and White individuals who report diagnoses of schizophrenia in a national sample of US adults: Discrimination and service use. *Schizophrenia Research*, 253, 22-29.
- Bowser, B. P. (2017). Racism: Origin and theory. *Journal of black studies*, 48(6), 572-590.
- Bressan, P. (2020). Strangers look sicker (with implications in times of Covid-19). *BioEssays*, 43(3), 2000158. <https://doi.org/10.1002/bies.202000158>
- *Brodersen, J., Schwartz, L. M., Heneghan, C., O'Sullivan, J. W., Aronson, J. K., & Woloshin, S. (2018). Overdiagnosis: What it is and what it isn't. *BMJ Evidence-Based Medicine*, 23(1), 1–3. <https://doi.org/10.1136/ebmed-2017-110886>
- Browne, J., & Mohamed, S. (2023). Evaluation of disparities in impact of mental health intensive case management on 6-month symptoms, functioning and quality of life between black and white veterans diagnosed with schizophrenia. *Schizophrenia Research*, 253, 68–74. <https://doi.org/10.1016/j.schres.2021.07.002>
- Bryant BE, Jordan A, Clark US. Race as a Social Construct in Psychiatry Research and Practice. *JAMA Psychiatry*. 2022;79(2):93–94. doi:10.1001/jamapsychiatry.2021.2877
- Burns, M. D., Monteith, M. J., & Parker, L. R. (2017). Training away bias: The differential effects of counterstereotype training and self-regulation on stereotype activation and application. *Journal of Experimental Social Psychology*, 73, 97–110. <https://doi.org/10.1016/j.jesp.2017.06.003>
- Came, H., & Griffith, D. (2018). Tackling racism as a “wicked” public health problem: Enabling allies in anti-racism praxis. *Social Science & Medicine*, 199, 181–188. <https://doi.org/10.1016/j.socscimed.2017.03.028>
- Chaney, K. E., Sanchez, D. T., & Remedios, J. D. (2018). We are in this together: How the presence of similarly stereotyped allies buffer against identity threat. *Journal of Experimental Social Psychology*, 79, 410–422. <https://doi.org/10.1016/j.jesp.2018.09.005>
- Clark, V. R. (2001). The Perilous Effects of Racism on Blacks. *Ethnicity & Disease*, 11(4), 769–772. <http://www.jstor.org/stable/45410327>
- Comer, A. L., Carrier, M., Tremblay, M.-È., & Cruz-Martín, A. (2020). The Inflamed Brain in Schizophrenia: The Convergence of Genetic and Environmental Risk Factors That Lead to Uncontrolled Neuroinflammation. *Frontiers in Cellular Neuroscience*, 14. <https://doi.org/10.3389/fncel.2020.00274>
- *Craddock, N., O'Donovan, M. C., & Owen, M. J. (2009). Psychosis Genetics: Modeling the Relationship Between Schizophrenia, Bipolar Disorder, and Mixed (or “Schizoaffective”) Psychoses. *Schizophrenia Bulletin*, 35(3), 482–490. <https://doi.org/10.1093/schbul/sbp020>
- *Dantzer, R., O'Connor, J. C., Freund, G. G., Johnson, R. W., & Kelley, K. W. (2008). From inflammation to sickness and depression: When the immune system subjugates the brain. *Nature Reviews Neuroscience*, 9(1), 46–56. <https://doi.org/10.1038/nrn2297>
- De Maynard, V. A. (2009). Dissociation in black or black-british people of African and African-Caribbean descent in the United Kingdom. *International Journal of Mental Health*, 38(2), 37–73. <https://doi.org/10.2753/imh0020-7411380203>

- *Demjaha, A., MacCabe, J. H., & Murray, R. M. (2011). How Genes and Environmental Factors Determine the Different Neurodevelopmental Trajectories of Schizophrenia and Bipolar Disorder. *Schizophrenia Bulletin*, 38(2), 209–214. <https://doi.org/10.1093/schbul/sbr100>
- DeTore, N. R., Balogun-Mwangi, O., Mueser, K. T., & McGurk, S. R. (2023). Comparison of black and white participants with severe mental illness in response to cognitive remediation as an augmentation of vocational rehabilitation. *Schizophrenia Research*, 253, 60–67. <https://doi.org/10.1016/j.schres.2021.09.001>
- Devakumar, D., Shannon, G., Bhopal, S. S., & Abubakar, I. (2020). Racism and discrimination in COVID-19 responses. *The Lancet*, 395(10231), 1194. [https://doi.org/10.1016/s0140-6736\(20\)30792-3](https://doi.org/10.1016/s0140-6736(20)30792-3)
- De Wolfe, T. J., Arefin, M. R., Benezra, A., & Rebolleda Gómez, M. (2021). Chasing ghosts: Race, racism and the future of Microbiome Research. *MSystems*, 6(5). <https://doi.org/10.1128/msystems.00604-21>
- Eack, S. M., Bahorik, A. L., Newhill, C. E., Neighbors, H. W., & Davis, L. E. (2012). Interviewer-perceived honesty as a mediator of racial disparities in the diagnosis of schizophrenia. *Psychiatric Services*, 63(9), 875–880. <https://doi.org/10.1176/appi.ps.201100388>
- *Earl, T. R., Fortuna, L. R., Gao, S., Williams, D. R., Neighbors, H., Takeuchi, D., & Alegria, M. (2014). An exploration of how psychotic-like symptoms are experienced, endorsed, and understood from the National Latino and asian american study and national survey of american life. *Ethnicity and Health*, 20(3), 273–292. <https://doi.org/10.1080/13557858.2014.921888>
- Ferrari, M., Flora, N., Anderson, K. K., Tuck, A., Archie, S., Kidd, S., McKenzie, K., Buffett, P.-E. B., Canso, D., Golding, L., Hamilton, H., Haughton, A., Kirmayer, L., Lurie, S., Noh, M., Noh, S., O'Connor, K., Parlee, J., Pongracic, S., ... Tang, T. (2015). The African, Caribbean and European (ACE) pathways to care study: A qualitative exploration of similarities and differences between African-origin, Caribbean-origin and European-origin groups in pathways to care for psychosis. *BMJ Open*, 5(1). <https://doi.org/10.1136/bmjopen-2014-006562>
- Fung, W. L. A., Bhugra, D., & Jones, P. B. (2009). Ethnicity and mental health: the example of schizophrenia and related psychoses in migrant populations in the Western world. *Psychiatry*, 8(9), 335-341.
- *Fusar-Poli, P., Borgwardt, S., Bechdolf, A., Addington, J., Riecher-Rössler, A., Schultze-Lutter, F., Keshavan, M., Wood, S., Ruhrmann, S., Seidman, L. J., Valmaggia, L., Cannon, T., Velthorst, E., De Haan, L., Cornblatt, B., Bonoldi, I., Birchwood, M., McGlashan, T., Carpenter, W., & McGorry, P. (2013). The Psychosis High-Risk State. *JAMA Psychiatry*, 70(1), 107–120. <https://doi.org/10.1001/jamapsychiatry.2013.269>
- Gaebel, W., Kerst, A., & Stricker, J. (2020). Classification and diagnosis of schizophrenia or other primary psychotic disorders: Changes from ICD-10 to ICD-11 and implementation in clinical practice. *Psychiatria Danubina*, 32(3–4), 320–324. <https://doi.org/10.24869/psyd.2020.320>
- Galletti, C., Paolini, E., Tortorella, A., & Compton, M. T. (2017). Auditory and non-auditory hallucinations in first-episode psychosis: Differential associations with diverse clinical features. *Psychiatry Research*, 254, 268–274. <https://doi.org/10.1016/j.psychres.2017.04.056>

- Gearing, R. E., Alonzo, D., Smolak, A., McHugh, K., Harmon, S., & Baldwin, S. (2011). Association of religion with delusions and hallucinations in the context of schizophrenia: Implications for engagement and adherence. *Schizophrenia Research*, 126(1-3), 150–163. <https://doi.org/10.1016/j.schres.2010.11.005>
- Gillborn, D. (1997). Ethnicity and educational performance in the United Kingdom: Racism, ethnicity, and variability in achievement. *Anthropology & Education Quarterly*, 28(3), 375–393. <https://doi.org/10.1525/aeq.1997.28.3.375>
- *Gordinier, S. W., & Docherty, N. M. (2001). Factor Analysis of the Communication Disturbances Index. *Psychiatry Research*, 101(1), 55–62. [https://doi.org/10.1016/s0165-1781\(00\)00239-0](https://doi.org/10.1016/s0165-1781(00)00239-0)
- Gordon, S., Mote, J., & Fulford, D. (2023). Qualitative analysis of paranoia reported in clinical interviews with black and white adults with schizophrenia. *Psychiatric Services*. <https://doi.org/10.1176/appi.ps.20220089>
- Grover, S., Davuluri, T., & Chakrabarti, S. (2014). Religion, spirituality, and schizophrenia: A review. *Indian Journal of Psychological Medicine*, 36(2), 119. <https://doi.org/10.4103/0253-7176.130962>
- Grover, S., Triveni, D., & Chakrabarti, S. (2017). Religiosity among patients with schizophrenia: An exploratory study. *Indian Journal of Psychiatry*, 0(0), 0. https://doi.org/10.4103/psychiatry.indianjpsychiatry_17_17
- Häfner, H. (2019). From onset and prodromal stage to a life-long course of schizophrenia and its symptom dimensions: How sex, age, and other risk factors influence incidence and course of illness. *Psychiatry Journal*, 2019, 1–15. <https://doi.org/10.1155/2019/9804836>
- Hampton, M. D. (2007). The role of treatment setting and high acuity in the overdiagnosis of schizophrenia in African Americans. *Archives of psychiatric nursing*, 21(6), 327-335.
- Harvey, R. D., Tennial, R. E., & Hudson Banks, K. (2017). The development and validation of a colorism scale. *Journal of Black Psychology*, 43(7), 740–764. <https://doi.org/10.1177/0095798417690054>
- Henderson, R. C., Williams, P., Gabbidon, J., Farrelly, S., Schauman, O., Hatch, S., Thornicroft, G., Bhugra, D., & Clement, S. (2014). Mistrust of mental health services: ethnicity, hospital admission and unfair treatment. *Epidemiology and Psychiatric Sciences*, 24(3), 258–265. <https://doi.org/10.1017/s2045796014000158>
- Janoutová, J., Janáková, P., Serý, O., Zeman, T., Ambroz, P., Kovalová, M., Varechová, K., Hosák, L., Jirík, V., & Janout, V. (2016). Epidemiology and risk factors of schizophrenia. *Neuro endocrinology letters*, 37(1), 1–8.
- Jegarl, A. M., Jegede, O., Isom, J., Ciarleglio, N., & Black, C. (2023). Psychotic misdiagnosis of racially minoritized patients: A case-based ethics, Equity, and educational exploration. *Harvard Review of Psychiatry*, 31(1), 28–36. <https://doi.org/10.1097/hrp.0000000000000353>
- Johnson, V. E., Nadal, K. L., Sissoko, D. G., & King, R. (2021). “It’s not in your head”: Gaslighting, ‘Splaining, victim blaming and other harmful reactions to microaggressions. *Perspectives on psychological science*, 16(5), 1024-1036. Njoku (2021) Covid-19 and Environmental Racism: Challenges and Recommendations.pdf
- Kaplan, J. M. (2011). ‘Race’: What biology can tell us about a social construct. *Encyclopedia of Life Sciences*.

- Keating, F., & Robertson, D. (2004). Fear, black people and mental illness: A vicious circle? *Health and Social Care in the Community*, 12(5), 439–447. <https://doi.org/10.1111/j.1365-2524.2004.00506.x>
- Kim, H. A. (2020). Understanding “Koreanness”: Racial stratification and colorism in Korea and implications for Korean multicultural education. *International Journal of Multicultural Education*, 22(1), 76–97.
- Kramer, P., & Bressan, P. (2021). Infection threat shapes our social instincts. *Behavioural Ecology and Sociobiology*, 75(3), 47.
- Lewis, A. N., Pietri, E. S., & Johnson, I. R. (2023). Close but not quite: Exploring the role of shared discrimination in racial outgroup identity-safety cues for black women. *Journal of Experimental Social Psychology*, 104, 104399. <https://doi.org/10.1016/j.jesp.2022.104399>
- *Linscott, R. J., & van Os, J. (2012). An updated and conservative systematic review and meta-analysis of epidemiological evidence on psychotic experiences in children and adults: On the pathway from proneness to persistence to dimensional expression across mental disorders. *Psychological Medicine*, 43(6), 1133–1149. <https://doi.org/10.1017/s0033291712001626>
- *Lobos, C.A., Komossa, K., Rummel-Kluge, C., Hunger, H., Schmid, F., Schwarz, S., & Leucht, S. (2010). Clozapine versus other atypical antipsychotics for schizophrenia. *Cochrane Database of Systematic Reviews*. <https://doi.org/10.1002/14651858.cd006633.pub2>
- Luciano, M., Sampogna, G., Del Vecchio, V., Giallonardo, V., Palumbo, C., Poci, B., Steardo, L., Zinno, F., Rebello, T., Reed, G. M., & Fiorillo, A. (2020). The Italian ICD-11 field trial: Clinical utility of diagnostic guidelines for schizophrenia and related disorders. *International Journal of Mental Health Systems*, 14(1). <https://doi.org/10.1186/s13033-020-0338-z>
- Mäki, P., Veijola, J., Jones, P. B., Murray, G. K., Koponen, H., Tienari, P., Miettunen, J., Tanskanen, P., Wahlberg, K.-E., Koskinen, J., Lauronen, E., & Isohanni, M. (2005). Predictors of schizophrenia—a review. *British Medical Bulletin*, 73–74(1), 1–15. <https://doi.org/10.1093/bmb/ldh046>
- Maura, J., & Weisman de Mamani, A. (2017). Culturally Adapted Psychosocial Interventions for Schizophrenia: A Review. *Cognitive and Behavioural Practice*, 24(4), 445–458. <https://doi.org/10.1016/j.cbpra.2017.01.004>
- McDonald, C., & Murray, R. (2000). Early and late environmental risk factors for schizophrenia. *Brain Research Reviews*, 31(2–3), 130–137. [https://doi.org/10.1016/s0165-0173\(99\)00030-2](https://doi.org/10.1016/s0165-0173(99)00030-2)
- McGrath, J., Saha, S., Chant, D., & Welham, J. (2008). Schizophrenia: A concise overview of incidence, prevalence, and mortality. *Epidemiologic Reviews*, 30(1), 67–76. <https://doi.org/10.1093/epirev/mxn001>
- McGrath, J., Saha, S., Welham, J., El Saadi, O., MacCauley, C., & Chant, D. (2004). A systematic review of the incidence of schizophrenia: The distribution of rates and the influence of sex, urbanicity, migrant status and methodology. *BMC Medicine*, 2(1). <https://doi.org/10.1186/1741-7015-2-13>
- Misra, S., Gelaye, B., Williams, D., Koenen, K., Borba, C., Quattrone, D., . . . Morgan, C. (2022). Perceived major experiences of discrimination, ethnic group and risk of psychosis in a six-country case–control study. *Psychological Medicine*, 52(15), 3668–3676. doi:10.1017/S0033291721000453

- Mitra, S., Natarajan, R., Ziedonis, D., & Fan, X. (2017). Antioxidant and anti-inflammatory nutrient status, supplementation, and mechanisms in patients with schizophrenia. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 78, 1–11. <https://doi.org/10.1016/j.pnpbp.2017.05.005>
- *Morgan, C., Charalambides, M., Hutchinson, G., & Murray, R. M. (2010). Migration, ethnicity, and psychosis: Toward a sociodevelopmental model. *Schizophrenia Bulletin*, 36(4), 655–664.
- Morning, A. J. (2011). *The nature of race: How scientists think and teach about human difference*. University of California Press.
- Nagendra, A., Black, C., & Penn, D. L. (2022). Black Americans and Schizophrenia: Racism as a Driver of Inequities in Psychosis Diagnosis, Assessment and Treatment. *Schizophrenia Research*, S0920-9964.
- Nagendra, A., Orleans-Pobee, M., Vincent, C., Padgett, J., Merritt, C., Crosby, C., ... & Penn, D. L. (2023). The representation of authors of color in schizophrenia research articles published in high-impact psychiatric journals. *Schizophrenia Research*, 253, 75-78.
- Noltemeyer, A., & Grapin, S. L. (2021). Working together towards social justice, anti-racism and equity: A joint commitment from school psychology international and journal of educational and psychological consultation. *School Psychology International*, 42(1), 3-10.
- Obach, B. K. (1999). Demonstrating the social construction of race. *Teaching Sociology*, 27(3), 252. <https://doi.org/10.2307/1319325>
- Oh, H., & Anglin, D. M. (2023). Discrimination, psychotic experiences and racial identity among Black Americans: Findings from the National Survey of American Life. *Schizophrenia Research*, 253, 14–21. <https://doi.org/10.1016/j.schres.2021.07.021>
- Oh, H., Waldman, K., & Koyanagi, A. (2018). Psychotic experiences and religiosity: Findings from the collaborative psychiatric epidemiological surveys. *Schizophrenia Research*, 201, 435–436. <https://doi.org/10.1016/j.schres.2018.05.037>
- Oluwoye, O., & Stokes, B. (2023). The unique pathways to coordinate specialty care for black families navigating early psychosis: A preliminary report. *Schizophrenia Research*, 253, 54–59. <https://doi.org/10.1016/j.schres.2021.11.004>
- Ortuño-Sierra, J., Badoud, D., Knecht, F., Paino, M., Eliez, S., Fonseca-Pedrero, E., & Debbané, M. (2013). Testing measurement invariance of the schizotypal personality questionnaire-brief scores across Spanish and Swiss adolescents. *PLoS ONE*, 8(12). <https://doi.org/10.1371/journal.pone.0082041>
- Pai, N., Acar, M., Juneja, P., Kouhkamari, M. H., Siva, S., & Mullan, J. (2022). Antipsychotic prescribing patterns in Australia: a retrospective analysis. *BMC psychiatry*, 22(1), 1-11.
- Paksarian, D., Merikangas, K. R., Calkins, M. E., & Gur, R. E. (2016). Racial-ethnic disparities in empirically-derived subtypes of subclinical psychosis among a U.S. sample of Youths. *Schizophrenia Research*, 170(1), 205–210. <https://doi.org/10.1016/j.schres.2015.12.004>
- Paolini, E., Moretti, P., & Compton, M. T. (2016). Delusions in first-episode psychosis: Principal component analysis of twelve types of delusions and demographic and clinical correlates of resulting domains. *Psychiatry Research*, 243, 5–13. <https://doi.org/10.1016/j.psychres.2016.06.002>
- *Perrachione, T. K., Chiao, J. Y., & Wong, P. C. M. (2010). Asymmetric cultural effects on perceptual expertise underlie an own-race bias for voices. *Cognition*, 114(1), 42–55. <https://doi.org/10.1016/j.cognition.2009.08.012>

- Perrin, P. B. (2013). Humanistic psychology's social justice philosophy: Systemically treating the psychosocial and health effects of racism. *Journal of Humanistic Psychology, 53*(1), 52-69.
- Phiri, P., Rathod, S., Gobbi, M., Carr, H., & Kingdon, D. (2019). Culture and therapist self-disclosure. *The Cognitive Behaviour Therapist, 12*.
<https://doi.org/10.1017/s1754470x19000102>
- *Pooe, J., Sokudela, B., Roos, J., Motiana, L., Dlamini, N., & Snyman, M. (2010). Testing the effectiveness of existing psycho-educational material (The Alliance Programme) for patients suffering from schizophrenia in the South African context. *African Journal of Psychiatry, 13*(4). <https://doi.org/10.4314/ajpsy.v13i4.61881>
- Pugliese, V., Bruni, A., Carbone, E. A., Calabrò, G., Cerminara, G., Sampogna, G., Luciano, M., Steardo, L., Fiorillo, A., Garcia, C. S., & De Fazio, P. (2019). Maternal stress, prenatal medical illnesses and obstetric complications: Risk factors for schizophrenia spectrum disorder, bipolar disorder and major depressive disorder. *Psychiatry Research, 271*, 23–30. <https://doi.org/10.1016/j.psychres.2018.11.023>
- *Quinn, P. C., Lee, K., & Pascalis, O. (2019). Face processing in infancy and beyond: The case of social categories. *Annual Review of Psychology, 70*(1), 165–189.
<https://doi.org/10.1146/annurev-psych-010418-102753>
- Raine A, Reynolds C, Lencz T, Scerbo A, Triphon N, Kim D (1994). Cognitive-perceptual, interpersonal, and disorganized features of schizotypal personality Schizophrenia Bulletin 20:191–201.
- Rakhshan Rouhakhtar, P., Roemer, C., Reeves, G., & Schiffman, J. (2023). The associations between attenuated psychosis symptoms and functioning in black and white youth at Clinical High-risk for psychosis. *Schizophrenia Research, 253*, 40–47.
<https://doi.org/10.1016/j.schres.2021.11.032>
- Rathod, S., Phiri, P., Harris, S., Underwood, C., Thagadur, M., Padmanabi, U., & Kingdon, D. (2013). Cognitive behaviour therapy for psychosis can be adapted for minority ethnic groups: A randomised controlled trial. *Schizophrenia Research, 143*(2-3), 319–326.
<https://doi.org/10.1016/j.schres.2012.11.007>
- Richeson, J. A., & Sommers, S. R. (2016). Toward a social psychology of race and race relations for the twenty-First Century. *Annual Review of Psychology, 67*(1), 439–463.
<https://doi.org/10.1146/annurev-psych-010213-115115>
- *Rittel, H., Webber, M., 1973. Dilemmas in a general theory of planning. *Policy Sci.* 4, 155e169.
- Risch, N., Burchard, E., Ziv, E., & Tang, H. (2002). Categorization of humans in biomedical research: genes, race and disease. *Genome biology, 3*(7). <https://doi.org/10.1186/gb-2002-3-7-comment2007>
- Roberts, S. O., Bareket-Shavit, C., Dollins, F. A., Goldie, P. D., & Mortenson, E. (2020). Racial inequality in psychological research: Trends of the past and recommendations for the future. *Perspectives on Psychological Science, 15*(6), 1295–1309.
<https://doi.org/10.1177/1745691620927709>
- Robinson, N., & Bergen, S. E. (2021). Environmental risk factors for schizophrenia and bipolar disorder and their relationship to genetic risk: Current knowledge and Future Directions. *Frontiers in Genetics, 12*. <https://doi.org/10.3389/fgene.2021.686666>
- Robertson, M. M., Shamsunder, M. G., Brazier, E., Mantravadi, M., Zimba, R., Rane, M. S., Westmoreland, D. A., Parcesepe, A. M., Maroko, A. R., Kulkarni, S. G., Grov, C., & Nash, D. (2022). Racial/ethnic disparities in exposure, disease susceptibility, and clinical

- outcomes during COVID-19 pandemic in National Cohort of adults, United States. *Emerging Infectious Diseases*, 28(11), 2171–2180. <https://doi.org/10.3201/eid2811.220072>
- Rudalevičienė, P., Stompe, T., Narbekovas, A., Raškauskienė, N., & Bunevičius, R. (2008). Are religious delusions related to religiosity in schizophrenia? *Medicina*, 44(7), 529. <https://doi.org/10.3390/medicina44070068>
- Salter, P., & Adams, G. (2013). Toward a critical race psychology. *Social and Personality Psychology Compass*, 7(11), 781–793. <https://doi.org/10.1111/spc3.12068>
- Saugo, E., Lasalvia, A., Bonetto, C., Cristofalo, D., Poli, S., Bissoli, S., Bertani, M., Lazzarotto, L., Gardellin, F., Ceccato, E., Pavanati, M., Tosato, S., & Ruggeri, M. (2020). Dietary habits and physical activity in first-episode psychosis patients treated in community services. Effect on early anthropometric and cardio-metabolic alterations. *Schizophrenia Research*, 216, 374–381. <https://doi.org/10.1016/j.schres.2019.11.010>
- Schmitt, M. T., Branscombe, N. R., Postmes, T., & Garcia, A. (2014). The consequences of perceived discrimination for psychological well-being: A meta-analytic review. *Psychological Bulletin*, 140(4), 921–948. <https://doi.org/10.1037/a0035754>
- Schmitt, C., Semu, L. L., & Witte, M. D. (2017). Racism and transnationality. *Transnational Social Review*, 7(3), 239–243. <https://doi.org/10.1080/21931674.2017.1359959>
- Schwartz, R. C., & Blankenship, D. M. (2014). Racial disparities in psychotic disorder diagnosis: A review of empirical literature. *World Journal of Psychiatry*, 4(4), 133. <https://doi.org/10.5498/wjp.v4.i4.133>
- Schwartz, E. K., Docherty, N. M., Najolia, G. M., & Cohen, A. S. (2019). Exploring the racial diagnostic bias of schizophrenia using behavioural and clinical-based measures. *Journal of Abnormal Psychology*, 128(3), 263–271. <https://doi.org/10.1037/abn0000409>
- Scoriels, L., Zimbron, J., Garcia-León, N., Coll-Negre, M., Giro, M., Perez, J., Jones, P. B., & Fernandez-Egea, E. (2019). Cross-sectional study of diet patterns in early and chronic schizophrenia. *Schizophrenia Research*, 208, 451–453. <https://doi.org/10.1016/j.schres.2019.03.029>
- Sebring, J. C. (2021). Towards a sociological understanding of medical gaslighting in Western Health Care. *Sociology of Health and Illness*, 43(9), 1951–1964. <https://doi.org/10.1111/1467-9566.13367>
- Segall, M. H. (2002). Why is There Still Racism if There is No Such Thing as "Race"?. *Online Readings in Psychology and Culture*, 5(1). <https://doi.org/10.9707/2307-0919.1045>
- *Selten, J.-P., van der Ven, E., Rutten, B. P., & Cantor-Graae, E. (2013). The social defeat hypothesis of schizophrenia: An update. *Schizophrenia Bulletin*, 39(6), 1180–1186. <https://doi.org/10.1093/schbul/sbt134>
- Siddle, R., Haddock, G., Tarrier, N., & Faragher, E. Brian. (2002). Religious delusions in patients admitted to hospital with schizophrenia. *Social Psychiatry and Psychiatric Epidemiology*, 37(3), 130–138. <https://doi.org/10.1007/s001270200005>
- Smedley, A., & Smedley, B. D. (2005). Race as biology is fiction, racism as a social problem is real: Anthropological and historical perspectives on the social construction of race. *American psychologist*, 60(1), 16.
- Smolak, A., Gearing, R. E., Alonzo, D., Baldwin, S., Harmon, S., & McHugh, K. (2012). Social Support and Religion: Mental Health Service Use and Treatment of Schizophrenia. *Community Mental Health Journal*, 49(4), 444–450. <https://doi.org/10.1007/s10597-012-9536-8>

- Sommers, S. R., & Norton, M. I. (2006). Lay theories about white racists: What constitutes racism (and what doesn't). *Group Processes & Intergroup Relations*, 9(1), 117–138. <https://doi.org/10.1177/1368430206059881>
- Stilo, S. A., & Murray, R. M. (2019). Non-genetic factors in schizophrenia. *Current Psychiatry Reports*, 21(10). <https://doi.org/10.1007/s11920-019-1091-3>
- Stilo, S. A., & Murray, R. M. (2010). The epidemiology of schizophrenia: Replacing dogma with knowledge. *Dialogues in Clinical Neuroscience*, 12(3), 305–315. <https://doi.org/10.31887/dcns.2010.12.3/sstilo>
- Storosum, B. W., Steinz, C., Cohen, S. E., Mattila, T., Brink, W. van, Roes, K., de Haan, L., Denys, D. A., & Zantvoord, J. B. (2023). Ethnic differences in response to atypical antipsychotics in patients with schizophrenia: Individual patient data meta-analysis of randomised placebo-controlled registration trials submitted to the Dutch Medicines Evaluation Board. *BJPsych Open*, 9(2). <https://doi.org/10.1192/bjo.2023.19>
- Sultana, J., Hurtado, I., Bejarano-Quisoboni, D., Giorgianni, F., Huybrechts, K. F., Lu, Z., ... & Trifirò, G. (2019). Antipsychotic utilization patterns among patients with schizophrenic disorder: a cross-national analysis in four countries. *European Journal of Clinical Pharmacology*, 75, 1005-1015.
- Tandon, R., Gaebel, W., Barch, D. M., Bustillo, J., Gur, R. E., Heckers, S., Malaspina, D., Owen, M. J., Schultz, S., Tsuang, M., Van Os, J., & Carpenter, W. (2013). Definition and description of schizophrenia in the DSM-5. *Schizophrenia Research*, 150(1), 3–10. <https://doi.org/10.1016/j.schres.2013.05.028>
- Thomas, J. M. (2014). Medicalizing racism. *Contexts*, 13(4), 24–29. <https://doi.org/10.1177/1536504214558213>
- Thombs, B., Turner, K. A., & Shrier, I. (2019). Defining and evaluating overdiagnosis in Mental Health: A Meta-Research Review. *Psychotherapy and Psychosomatics*, 88(4), 193–202. <https://doi.org/10.1159/000501647>
- *Tseng, Wen-Shing, Chang, S.C., Nishjzono, M., 2005. Asian Culture and Psychotherapy: Implications for East and West. University of Hawai'i Press, USA.
- *Umaña-Taylor, A. J., Quintana, S. M., Lee, R. M., Cross, W. E., Rivas-Drake, D., Schwartz, S. J., Syed, M., Yip, T., & Seaton, E. (2014). Ethnic and racial identity during adolescence and into young adulthood: An integrated conceptualization. *Child Development*, 85(1), 21–39. <https://doi.org/10.1111/cdev.12196>
- Unzueta, M. M., & Lowery, B. S. (2008). Defining racism safely: The role of self-image maintenance on white Americans' conceptions of racism. *Journal of Experimental Social Psychology*, 44(6), 1491–1497. <https://doi.org/10.1016/j.jesp.2008.07.011>
- Veling, W., Selten, J.-P., Veen, N., Laan, W., Blom, J. D., & Hoek, H. W. (2006). Incidence of schizophrenia among ethnic minorities in the Netherlands: A four-year first-contact study. *Schizophrenia Research*, 86(1–3), 189–193. <https://doi.org/10.1016/j.schres.2006.06.010>
- *Wang, P. S., Demler, O., & Kessler, R. C. (2002). Adequacy of treatment for serious mental illness in the United States. *American Journal of Public Health*, 92(1), 92–98. <https://doi.org/10.2105/ajph.92.1.92>
- Wilkins, C. L., Wellman, J. D., & Kaiser, C. R. (2013). Status legitimizing beliefs predict positivity toward whites who claim anti-White Bias. *Journal of Experimental Social Psychology*, 49(6), 1114–1119. <https://doi.org/10.1016/j.jesp.2013.05.017>

*Williams, D. R., & Earl, T. R. (2007). Commentary: Race and mental health more questions than answers. *International Journal of Epidemiology*, 36(4), 758–760.
<https://doi.org/10.1093/ije/dym114>

Wolny, J., Moussa-Tooks, A. B., Bailey, A. J., O'Donnell, B. F., & Hetrick, W. P. (2023). Race and self-reported paranoia: Increased item endorsement on subscales of the SPQ. *Schizophrenia Research*, 253, 30–39. <https://doi.org/10.1016/j.schres.2021.11.034>

* = works not directly consulted