

Race Matters: Towards a Structural Understanding of the Management of Attention
Deficit Hyperactivity Disorder in Black Adolescents

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“...diagnosis remains a projective act, one that combines scientific understanding with a
complex set of ideological...and political assumptions” (Metzel 2011, xvii).

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ABSTRACT

The current study examines racial differences in the management of Attention Deficit Hyperactivity Disorder (ADHD) among Black adolescents. This study also examines Black adults' reflection upon adolescent symptoms of ADHD. Drawing on literature from racial/ethnic disparities in diagnosis and treatment of ADHD, health care service utilization, health behaviors, structural racism and medicalization, this study examines the health behavior and health care utilization practices of Black people, analyzing the avenues through which racism structures the management of symptoms. This study also explores the ways in which management of adolescent symptoms of ADHD shape Black adults' self-management of symptoms in adulthood. To investigate such ideas data from the National Comorbidity Survey- Adolescent Supplement (NCS-A) and the Parent Self-Administered Questionnaire (PSA-Q) were analyzed to offer a descriptive picture of differences in management and treatment of adolescent ADHD symptoms. Ten interviews were conducted with Black adults to offer depth to reported interpersonal causes of racial differences in management and treatment and assist in placing such causes within a framework of structural racism. Interview questions focused on participant's articulation of the socio-political landscape in which adolescent symptoms of ADHD were experienced. Additional questions targeted processes around parent's management of symptoms, the school systems management of symptoms, participant's relationships to medical care providers and avenues to treatment. Quantitative findings suggest there are racial differences present in the management of adolescent ADHD and qualitative findings offer that these differences are reflective of a structural system of power and privilege that shapes Black people's engagement with and access to care for symptoms of ADHD. This research contributes to existent knowledge about reported racial differences in management of symptoms of ADHD, and has implications for the ways in which literature approaches racial disparities in diagnosis and treatment of ADHD among Black adolescents.

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GENERAL AUDIENCE ABSTRACT

The current study examines racial differences in the management of Attention Deficit Hyperactivity Disorder (ADHD) among Black adolescents. This study also examines Black adults' reflection upon adolescent symptoms of ADHD. Drawing on literature from racial and ethnic disparities in diagnosis and treatment of ADHD, health care service utilization, health behaviors, structural racism and medicalization, this study examines the health behavior and health care utilization practices of Black people. This study also explores the relationship between adolescent and adult management of ADHD symptoms. To investigate differences by race data from the National Comorbidity Survey- Adolescent Supplement (NCS-A) and the Parent Self-Administered Questionnaire (PSA-Q) were analyzed. In addition, interviews were conducted with Black adults to offer depth and give context to the ways in which race and racism shaped quantitative findings. Interview questions focused on participant's adolescent management of symptoms by familial networks and school systems, as well as participant's adult relationships to medical care providers and symptom management. Quantitative findings suggest racial differences are present in the management of adolescent ADHD and qualitative findings offer that these differences are reflective of the ways in which racism shapes Black people's engagement with and access to care for symptoms of ADHD. This research contributes to existent knowledge about reported racial differences in management of symptoms of ADHD, and has implications for the ways in which literature approaches racial disparities in diagnosis and treatment of ADHD among Black adolescents.

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STATEMENT OF THE PROBLEM CHAPTER 1

Attention Deficit Hyperactivity Disorder (ADHD) has received scholarly attention regarding the management of adolescent symptoms (Barkley 2014; ADHD Subcommittee 2011; Bussing 2003). How parents decided to manage their child's symptoms and why they choose certain treatment avenues over others has also been a point of interest (Bussing 2007; Charach 2006; Dosreis 2003; Zwi 2011). Prior research suggests that disparities exist in the diagnosis and treatment of ADHD and that these disparities span across race and ethnicity (Morgan 2013). This dissertation is interested in unpacking racial differences and illuminating the ways in which social systems of oppression shape African Americans' management of ADHD symptoms.

Health experiences and health outcomes are reflected in differential diagnosis and treatment of ADHD. White adolescents are diagnosed and treated for symptoms of ADHD significantly more often than African American and Hispanic adolescents (Coker 2016; Samuel 1996). When racial/ethnic minorities do consult a medical professional, or enroll in special education classes to address symptoms, their experiences and outcomes differ from their white adolescent counterparts (U. S. Department of Education 2004). Differences across race have also been observed and are evident in the methods parents employ to manage the symptoms of their children. While parents of white children take a biomedical approach to addressing symptoms, the decision-making process of African American parents seem to be heavily shaped by socio-demographic and structural factors that do not necessarily burden the health behaviors and health care utilization practices of white parents (Kendall 2002).

Identification and management of symptoms are often discussed as the result of interpersonal factors such as doctor-patient relationships, social networks, social stigma, and

cultural beliefs (Bussing 2006; Moody 2017; Olaniyan 2007). While scholarly research has focused on specifics of identification and management of symptoms, the literature is slim in critically thinking through the ways in which racism shapes adolescent experiences of ADHD. In other words, existing literature names racial and ethnic differences in diagnosis and treatment, but does not necessarily explain the differences through a structural lens. Instead, much of the scholarship has individualized diagnosis and treatment rather than discussing health behaviors and health care utilization practices associated with symptoms of ADHD as particularly patterned by race. Identifying the patterned arrangements of health behaviors and health care utilization practices among African American's is necessary to challenge the policies, practices and procedures that structure African Americans' experience of social systems. It is therefore essential to critique the racialized social system from which health disparities are developed and maintained.

It is my argument that solely relying on interpersonal factors to explain differences in diagnosis and treatment of ADHD renders an incomplete analysis of the racial differences in outcomes. Drawing on literature from racial/ethnic disparities in diagnosis and treatment of ADHD, health care service utilization, health behaviors, and medicalization, the proposed study will examine the health behavior and health care utilization practices of Black people, analyzing the ways in which race and racism structure the management of symptoms. To investigate such ideas, I bring together a nationally representative dataset of adolescent respondents and interviews with Black adults who experienced symptoms of adolescent ADHD. The dataset offers a descriptive picture of differences in management and treatment of ADHD symptoms while the qualitative component uses narratives to offer depth to reported interpersonal causes of racial differences in management and treatment and assist in placing such causes within a

structural framework. Interview questions focused on participants articulations of the socio-political landscape in which adolescent symptoms of ADHD were experienced. Further questions targeted processes around management and treatment, parent's management of symptoms, the school systems management of symptoms, and participant's relationships with medical care providers and avenues to treat symptoms.

Operational Definitions of Race, Racism and Social Structure

For this dissertation, I define race as a permanent and rigid ranking order reflecting the relationship between Europeans and indigenous peoples. It is an oppressive ordering system emerging out of quests for wealth and power (Smedley 1999). Race is a way of structuring society; an umbrella ordering economic outcomes, educational outcomes, health outcomes etc. (Blau 1997), and a social category marked with ideological justifications for power and privilege based on skin color. Racial categories are given power through racism. Racism can be understood as “institutional and individual practices that create and reinforce oppressive systems of race relations whereby people and institutions engaging in discrimination adversely restrict, by judgment and action, the lives of those whom they discriminate” (Kreiger, 2003, 195). As such, racism is a system of superiority and inferiority resulting in racial differences in outcomes.

To approach race as a social structure is to further engage with the ways in which race and racism allocate differential privileges to racialized groups. Social structures are the patterned arrangements of social institutions and social relationships. The organizing of social relationships creates social facts regarding social ordering. Institutions are structured by a white, wealthy elite who benefit from the hierarchal relationships within and across institutions (Feagin 2006). Thus, understanding race as a social structure means embracing the argument that whiteness is a structural privilege; a product of systematic ordering via social institutions, and an overarching

cause of the persistence of racism and racial inequality (Smedley 2007). The proposed research project will work to articulate health care utilization practices and health behaviors of Blacks' as reflecting a larger, structural system of power and privilege that acts as the foundation of decision-making concerning health, and in this case management of symptoms consistent with ADHD.

LITERATURE REVIEW CHAPTER 2

II. ADHD - An Overview

The National Institute of Mental Health describes attention deficit hyperactivity disorder (ADHD) as, “a brain disorder marked by an ongoing pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development” (NIMH 2016). It is a neurodevelopmental disorder that finds onset in the adolescent years and can persist into adulthood. It is the most commonly diagnosed mental health disorder among adolescent children and has three primary markers of inattention, hyperactivity, and impulsivity. The DSM (2013) explains potential symptoms associated with these markers as:

1) ***Inattention:***

- a. Fails to pay close attention to detail and makes frequent mistakes that can be avoided
- b. A person lacks focus and frequently wanders off frequently
- c. Individual often seems to not speak when spoken to directly (in a constant state of mindlessly wandering off)
- d. demonstrates carelessness towards and inability to follow through in finishing schoolwork
- e. Individual shows lack of sustained attention toward various activities has difficulty completing chores and tasks
- f. Show reluctance to participate in tasks that require sustained mental focus
- g. Frequently misplaces items that are necessary to complete tasks
- h. Easily distracted by external factors unrelated to the task at hand
- i. Forgetful in daily activities

2) *Hyperactivity and Impulsivity*

- a. Individuals often engages in fidgeting, talking, tapping, impatience etc. in a manner that is extreme
- b. Often leaves classroom seat when expected to remain
- c. Excessive in “running about” or climbing on things
- d. Unable to participate in leisurely activity
- e. Has difficulty being still for an extended period of time
- f. Excessive talking
- g. Often interrupts others, blurts out answers in class or finishes other sentences
- h. Finds it hard to wait his or her turn
- i. Can be socially intrusive
- j. A person makes spur of the moment decisions without thinking through the decision-making process or the resulting impact of decisions

Though inattention, hyperactivity, and impulsivity are expected for children, the symptoms for children with ADHD often occur in ways that disrupts their ability to function *normally* in social settings. To be diagnosed with ADHD, individuals must demonstrate six or more symptoms of inattention, hyperactivity and impulsivity in two or more settings (school, home, with friends and family, etc.) before the age of 12 (DSM-5 2013). Potential risk factors for ADHD include brain injury, exposure to environmental hazards during pregnancy or in younger years, alcohol and tobacco use during pregnancy, premature birth, and low birthweight (Center for Disease Control 2017).

Available Treatments

ADHD is classified as a chronic disorder and there is no cure (Institute Of Medicine 2016). There are, however, treatments available to manage symptoms and increase functionality. Available treatments for adolescents include psychotherapy, pharmacotherapy, special education, or some combination of the three (Institute Of Medicine 2016).

Psychotherapy (also referred to as talk therapy, behavioral therapy or counseling) is the treatment of mental health disorders by employing psychological techniques to regulate emotional and behavioral responses, and alter the learning environment to meet the needs of the child. Research suggests that while therapies may also be helpful in teaching family members how to manage the symptoms of ADHD via stress management techniques, support groups, and training, psychotherapy is not necessarily effective in mitigating symptoms (NIMH 2017). Thus, pharmacotherapy is often a central component of treatment plans for persons with ADHD (Masi 2016).

Pharmacotherapy treatment usually includes stimulants, non-stimulants, and sometimes antidepressants. Though stimulants might seem counterintuitive for treating symptoms, researchers find that they increase dopamine -- a brain chemical that plays a central role in thinking and attention -- calming symptoms of the disorder (NIMH 2017). While stimulants work immediately, non-stimulants take longer to take effect, but are usually prescribed when: 1) the stimulant is not effective enough, 2) the patient suffers from side effects of stimulant use such as high blood pressure, increased anxiety, headaches, or personality shifts, or 3) the stimulant and non-stimulant taken together are more effective (NIMH 2017). As another option, some medical professionals prescribe antidepressants. Antidepressants are generally offered in addition to stimulants for patients identified as having both ADHD and a mood disorder. Though

the FDA has not approved antidepressants for treating ADHD, like stimulants, they do impact the functioning of norepinephrine and dopamine (NIMH 2017).

In addition to psychotherapy and pharmacotherapy, legislation has been passed to provide support within the school system for children with learning and behavioral disabilities. The 1975 Individuals with Disabilities Education Act (IDEA) is a four-part bill meant to ensure public school children with disabilities are offered special services. “IDEA governs how states and public agencies provide early intervention, special education and related services to more than 6.5 million eligible infants, toddlers, children and youth with disabilities” (IDEA 2017). Under this piece of legislation, students with disabilities are offered Free Appropriate Public Education (FAPE), providing them with a level of education that is comparable to their non-disabled counterparts (IDEA 2017). In brief, Part A of the legislation covers general provisions; Part B ensures educational assistance for children/adults ages 3-21; Part C covers infants and toddlers up to age 3; and Part D lays out the federal national support program. It is under IDEA Part B that adolescents can access school programs to help meet the needs of mental and behavioral disorders. Section 504 of the Rehabilitation Act of 1973 also covers persons with behavioral challenges such as ADHD. While students must meet at least one of the diagnostic criteria to be eligible to be enrolled in IDEA, a formal diagnosis is not required to receive assistance under Section 504 of the Rehabilitation Act. Section 504 of the Rehabilitation Act only requires a “physical or mental impairment that substantially limits one or more major life activities” (Holler and Zirkel 2008:20). IDEA has funds that are specifically set aside for qualifying students, but Section 504 of the Rehabilitation Act is funded by the school or school district and is therefore subject to discretion (Guis 2007; Holler and Zirkel 2008). It is necessary to note that while Black and Hispanic youth are overrepresented in school discipline for behavioral

challenges, they are underrepresented in the receipt of school services under IDEA and Section 504 of the Rehabilitation Act of 1973, which offers assistance to students with behavioral challenges such as ADHD (Ramey 2015; Guis 2007; Holler and Zirkel 2008). Black children are also underrepresented nationwide in school programs that are specific to children with behavioral challenges such as ADHD (Hibel et. al. 2010; Morgan et. al. 2012).

II. Differences in Diagnosis and Treatment

The Center for Disease Control (CDC) reports that 11% (6.4 million) of children aged 4-17 years have ever been diagnosed with ADHD (Visser 2014). And of the children diagnosed with ADHD, approximately 63% take medication (Visser 2014). This is despite the DSM-5 finding that only 5% of children truly have ADHD (2013).

Gender

There is literature demonstrating that boys are diagnosed more often than girls (Merikangas 2010), that boys 8-15 years of age are more likely than girls to have their disorder identified (Froehlich 2007), and that boys receive medication more often than girls (Derks 2007). Girls are underdiagnosed and under-identified due largely to symptom presentation and symptom severity (Arnett 2014; Skogli 2013). Specifically, girls lack attentiveness and internalize their symptoms more so than overexpress markers of hyperactivity and impulsivity (Gaub 1997; Quinn 2008; Biederman 2002; Sciotto 2004). And the methods parents use to manage symptoms differ between boys and girls. Specifically, "...parents are more likely to administer over-the-counter preparations to boys and to use talk for girls to help with their child's behavioral or emotional problem. One explanation for this may be that parents construct different sick roles of ADHD symptoms depending on child gender and cultural context" (Bussing 2006, 879; Bussing 2005). Specifically, Bussing (2005) suggests that parents of white girls seem to feel that their

daughter's symptoms are reactions to environmental cues and can be discussed as a behavioral conversation between parent and child. Alternatively, parents of white boys see their child as passive and not necessarily interested in controlling their behavior (Bussing 2005).

Differences in diagnosis and treatment between boys and girls may also be disparate because teachers tend to refer boys for professional evaluation more than girls, even when they present similar symptoms (Sciutto 2004). And when children are referred for medical attention, therapists do not diagnose strictly by the guidelines of the DSM, contributing to professionals diagnosing boys at twice the rate of girls who present with similar profiles even when clinical guidelines for the disorder are not met for boys (Bruchmuller 2012).

There is also a reported race aspect to the gendered differences that should not be overlooked. Controlling for enabling and need variables, all boys and white children have been found more likely to receive evaluation and diagnosis of ADHD than all girls and black children (Bussing 2003). And Black parents are reported as less likely than white parents to consult with a professional when the concern is regarding Black girls (Bussing 2005).

Race and Ethnicity

The National Health Interview Study (NHIS) 2011-2013 reports prevalence rates of ADHD diagnosis for whites as 11.5%, blacks 8.9%, and Hispanics 6.3%. This is despite the CDC finding that racial minority children are more likely to be exposed to risk factors of low birth weight and show symptoms of greater frequency of classroom problem behaviors, and lower academic achievement (Morgan 2013), yet have a 69% lower likelihood of being diagnosed -- two-thirds the rate of similar white children (Visser 2014). Despite greater likelihood of exposure to risk factors and self-identified higher symptomatology (Coker 2016), Black adolescents are also less likely than white adolescents to be treated for ADHD (Leslie

2003; LeFever 1999; Mandell 2008; Olsson 2003; Zito 1997; Zito 1998) and to continue to take the medication when prescribed (Cummings 2017). In fact, Bussing (2003) found that of elementary students at risk of ADHD, 82% of white children had been diagnosed with ADHD while 28% of Black children received a diagnosis. Rowland (2002) further demonstrated that of the children diagnosed with ADHD in a sample of 6,000, white children (76%) were taking medication at a much higher rate than Black (56%) and Latino children (53%).

There is however some inconsistency regarding whether racial differences truly exist in the treatment of ADHD or if differences are simply reflective of socioeconomic status. A U.S. cross-sectional study found no racial/ethnic disparity in medical treatment of ADHD after demographic variables were controlled for (Froehlich 2007). The study did however find that while the poorest children fulfilled the ADHD criteria set forth by the DSM-IV, they were two times less likely to receive regular medical treatment than the wealthiest ADHD diagnosed children in the sample (Froehlich 2007). Thus, higher family income assumes greater likelihood of utilizing healthcare services and visiting a mental health specialist as opposed to a general practitioner (Cunningham 1996). Nonetheless, literature suggests that in general Black adolescents tend towards being significantly less likely than white adolescents to receive necessary specialty mental health care for psychiatric disorders (Costello 2014).

For example, Coker (2016) conducted a longitudinal multi-site study which concluded that not only are Black (fifth, seventh and tenth grades) and Latino (fifth and tenth grades) children less likely than white children to be diagnosed with ADHD across multiple waves, they are also less likely to have taken medication in the past year. At each wave, “percentages of black children compared with white children had symptoms suggestive of ADHD even though parents of white children reported their child as being diagnosed with ADHD at a higher rate

than Black parent reports” (Coker 2016, 4). These findings are presented even after controlling for sociodemographic and comorbid mental health factors, and are consistent with other literature citing racial/ethnic minority children as less likely to use medication to treat ADHD compared to their white adolescent counterparts (Leslie 2003; Morgan 2014; Pastor 2005; Olfson 2003; Zito 1997; Zito 1998).

It is interesting to note that while teachers in general are in support of medication to treat ADHD (Kos 2008), Black teachers, older teachers, and teachers serving low-income areas are less accepting than white teachers, younger teachers, and teachers working in upper-class elementary schools (Simoni 2017). For Black teachers, medication is only necessary to address the needs of a child’s academic or behavioral deficiency. This departs from white teachers who see medication as a tool to ‘transcend normalcy,’ exceeding above average performance (Simoni 2017). This might give some social context to the explanation regarding why “White suburbs like those around the country club are among the healthiest and wealthiest places on earth, yet they are also considered the center of the ADD epidemic” (Moynihan and Cassels 2005, 61). While Black children might demonstrate symptoms reflective of ADHD, white children in middle-upper income areas offer a demand that is viewed as profitable by big pharmaceutical companies.

It is important to remember that school teachers are not trained medical professionals. Their assessment of a child’s behavior is largely subject to individual interpretation (Simoni 2017). White educators “tend to see Whiteness as the norm and consequently the academic skills, behavior, and social skills of Black and other students of color are constantly compared with those of their White peers” (Blanchett 2006, 27). African American students’ behavior in the classroom have long been interpreted as threatening or abrasive, lending to a social stigma that

attaches problematic ascriptions to their behavioral misconduct. (Kochman 1983; Davidson 2001; McCabe 2007). Weak relationships between parents and teachers, especially in low-income areas, can also act as a barrier to adequately addressing adolescent symptoms of ADHD (Hughes 2007; Hughes 2005), creating an “us against them” mentality between parents and teachers (Moody 2017). Parents have expressed feelings of teachers talking down to them when discussing their child’s progress and teachers have expressed not being able to connect with students of whose racial and socioeconomic conditions they have not experienced (Moody 2017). Teachers in low-income areas have also voiced fears that “labeling more Black children with ADHD...would compound their existential stigmatization” (Moody 2017, 954).

There is documented evidence that racial differences exist in the receipt of school services for ADHD and learning or behavioral disorders, but findings are unclear. Black students make up 14.8% of the general population, yet account for 20% of students enrolled in special education (Losen and Orfield 2002). They are also more likely than white students to be enrolled in special education classes for and be identified as having mental retardation, and learning or behavioral disorders (Bussing 2005; Klinger 2005). While disproportionate representation in the receipt of school services has been demonstrated, opposing evidence suggests that Black children do not receive school resources for learning disabilities at the same rate as their white counterparts and that black children are labeled differently than white children for similar behaviors. A study in Philadelphia, PA found Black children were less likely than white children to receive special education services (Mandell 2008). The authors concluded that children with similar clinical profiles were labeled differently among racial /ethnic lines. And that such labeling was possibly due to, “under treatment of ADHD, differential interpretation of associated behaviors, and differences in parents’ ability to advocate for children’s educational and mental

health needs” (Mandell 2008). Black children enrolled in special education were less likely to be given the label of “learning disorder” and receive a diagnosis of “affective disorder”, and more likely to be labeled as having “emotional disturbance” and receive a diagnosis of “disruptive order” (Mandell 2008). Even when the same symptoms are displayed, Black boys are more likely to be diagnosed with conduct disorder than white boys (Kendall 2002). Interestingly, Black children have labeled their own ADHD symptoms as “bad” while white children have described their symptoms as “weird” or “whacko” (Kendall 2003).

III. Health Care Service Utilization and Help Seeking

In general, most people with mental disorders in the U.S remain undiagnosed and untreated or poorly treated (Wang 2005). Health care service utilization and help-seeking behaviors are particularly pronounced for racial/ethnic minority groups and likely play a role in health outcomes. The U.S. Department of Health and Human services (1999) reported that racial and ethnic minorities have less access to mental health services than whites, are less likely to receive needed mental health care than whites, and are treated poorly when they do receive care. And minorities are reported as having a 90% lower odds of receiving mental health care consistent with minimum recommendations for effectiveness, compared to whites (Wang 2000). In fact, black-white differences in mental health care access (8.2% to 10.8%) and psychotropic medication use (7.6% to 10%) increased between 2004 and 2012 (Cook 2016). While Blacks are found to have more positive attitudes towards mental health care prior to service use, they remain less likely to consult professionals (Diala 2000). And when they do seek help from mental health professionals, their attitudes are less positive than those of whites after having utilized the services (Diala 2000). The literature largely explains racial differences in health care and ADHD as caused by individual or group-level perceptions, differential reliance on non-traditional

sources (i.e. social networks, clergy), and discriminatory practices by healthcare providers (Bernabei 1998; Bussing 1998; Bussing 2003; Cleeland 1994; Greiger 2003; Nelson and Smedley 2002; Todd 2000). Black disparate engagement in help seeking for mental health concerns (Merikangas 2011; Garland 2005) have also been discussed in the literature as the result of family influence, family burden, parental knowledge, perceived negative norms, medical labeling, perceived need, and social stigma (Barksdale 2009; Bussing 1998; Zahner 1997). The aforementioned are particularly important given Black's tend to utilize religious social networks over medical care providers for mental health issues (Bussing 2005).

Because ADHD begins in childhood and parents are often at the center of help-seeking, it is important to account for factors reflective of parental help-seeking behaviors for their children. The *ADHD Help-Seeking Behavior Model for Ethnic and Minority Children* is helpful here. The four-stage pathway model is a framework designed to illuminate predictive factors of service use, with specific attention paid to ethnic-minority populations (Eiraldi 2006). As Eiraldi (2006) point out, oftentimes parents might choose to consult with a health professional to assist in parenting their child. In other cases, they might exchange techniques with friends, family members, and social groups. Their choice of consultation can impact how and if adolescent ADHD is identified, managed, and treated. The *ADHD Help-Seeking Behavior Model for Ethnic and Minority Children* hypothesizes that health behaviors are shaped by disorder characteristics, predisposing factors to health care service use, barriers to health care service use, and variables that might enhance or impede health care service use over time. The model stages consist of:

1) Problem Recognition – These are factors believed to shape the recognition of ADHD symptoms such as impairment severity, profile of parents and teachers, and the profile of the child.

2) Decision to Seek Help – After parents have accepted that their child has ADHD, they must make decisions concerning treatment plans. These decisions are influenced by predisposing characteristics such as demographics, fears, socio-cultural norms, parental knowledge concerning ADHD, and parental attitudes.

3) Service Selection – There are several factors that shape the services children receive. These include economic factors, social support, racial bias, insurance status, and social networks.

4) Service Utilization Patterns – Given that ADHD is a chronic disorder, it must be continually monitored. Factors that contribute to long-term compliance and service use include quality of care, service integrity, and treatment adherence.

The model argues that parents of children with ADHD navigate the pathway in a unidirectional manner, but that ethnicity and culture impact the ways in which variables behave and predict the next step in the model. For example, predisposing characteristics of “social networks might facilitate or hinder problem recognition” (Eiraldi 2006, 611) as the type of social networks parents have impact if they choose to utilize services.

The Eiraldi (2006) explanatory model is of importance as literature demonstrates Black parents are more likely to rely on social networks to help their children with behavioral and emotional disorders (Bussing 2006) and that these social networks can be more influential than the advice of traditional medical professionals (Geuvara 2005). In general, Black parents seem to be more skeptical of mental health services, resulting in a 49% less likelihood of showing up for appointments (McKay 2001), reporting anxiety regarding psychotropic approaches to treating mental illness (Schnittker 2000). In addition, Black parents are reported as understanding symptoms of ADHD to be largely environmental and not necessarily neurodevelopmental (Mychailyszyn 2008). Their health behaviors concerning adolescent ADHD are often attributed

to: 1) beliefs that poor parenting cause symptoms of ADHD, 2) concerns of diagnostic social control, 3) distrust of healthcare providers, 4) anxieties surrounding future drug dependency if they are to treat their child with medication, and 5) frustrations concerning inadequate education systems that do not meet the special needs of their children (Olaniyan 2007). Parents education concerns may hold merit as Black students are disproportionately referred to special education for mental retardation, and emotional or behavioral disorders over white students (Zhang and Katsiyannis 2002). And when they are enrolled in special education courses, they have been documented as exiting with achievement gains lower than their white peers identified as having the same disabilities (U.S. Department of Education 2004). A theme amongst these and other studies is the way in which concerns of racial discrimination and practices of inequality shape how Blacks' approach diagnosis and treatment of symptoms (Butz 2006).

Specifically, that to prepare children for the racial hostility they will one day face, Black parents tend towards using practices of discipline and punishment instead of medical care to treat symptoms (Bradley 2002). While Black parents with ADHD-diagnosed adolescents focus on redirecting their child's attention towards beneficial activity, white parents focus on self-reflective and preventative approaches (Bussing 2006). This may be due to the ways in which ADHD is introduced to parents. White parents' introduction to ADHD is generally through explanatory biomedical models via healthcare or mental health professionals, while Black children's ADHD symptoms are often interpreted through a socio-demographic lens with behaviors being incorrectly attributed to lazy parenting, substance abuse, poverty, and violence (Bussing 2006; Kendall 2002; Morgan 2013). The presumed need for biomedical intervention is assumed by the biomedical model typically introduced to white parents. This is however unclear. There are suggestions that both Blacks and whites generally buy in to the biomedical model, and

that differences are nested in Blacks' skepticism of psychiatric medication (Schnittker 2000). One might nonetheless suggest that ADHD's introduction to parents is partially reflective of a larger system of medicalization that differentially assigns meaning and labels to deviant behaviors by race.

Medicalization of Deviance

Medicalization is explained as the process by which, "a problem is defined in medical terms, described using medical language, understood through the adoption of a medical framework, or treated with a medical intervention" (Conrad 2007, p. 5). Conrad and Potter (2000) argue that medicalization of a disease or illness operates in three ways: 1) medical treatment becomes normalized through the intent to bring social order to behaviors so they will reflect cultural norms, 2) medical intervention is used to restore functioning, and 3) medication is used to increase performance so that it is in line with the standards of social norms. Such is the case with ADHD (Conrad and Potter 2000). Where symptoms of inattention, hyperactivity, and impulsivity were once thought only to be reflective of childhood behavior, they are now defined in medical terms, critiqued through a medical framework, and seek biomedical intervention (Conrad 2007; Conrad and Potter 2000).

Following in the steps of Peter Conrad, I would like to offer that this project is not interested in whether ADHD is *really* a disease. Rather, this study is interested in the socio-political landscape that projects itself onto Black adolescents in the process of management, diagnosis, and treatment of ADHD. This project is further interested in how Blacks understand their adolescent (non)diagnosis and management in adulthood. While this project is not concerned with whether ADHD is over-medicalized, it is invested in the ways in which medicalization is inscribed upon Black people.

Conrad and Schneider's (2010) labeling- interactionist approach to deviance is helpful here. Such an approach

“views the morality of society as socially constructed and relative to actors, context, and historical time. Fundamental to this view is the proposition that morality does not just happen; since it is socially constructed, there must be constructors. Morality becomes the product of certain people making claims based on their own particular interests, values, and views of the world. Those who have comparatively more power in a society are typically more able to create and impose their rules and sanctions on the less powerful. In consequence, deviance becomes actions or conditions that are defined as inappropriate to or in violation of certain powerful groups' conventions” (Conrad and Schneider 2010, 2).

Here, a sociology of knowledge would instruct that deviance is not a state, but a product of society (Durkheim 1912). And that something or someone becomes deviant through social and political conflict which is controlled by dominant groups. The medicalization of deviance begs specific questions concerning race: What and who does deviance look like? Who decides which cases of behavioral deviance should be met with medical care and which instances of behavioral deviance should be met with punishment? These questions can be answered by considering how systemic power and privilege shape the ways in which symptoms are viewed for Black children versus white children. Where behaviors associated with ADHD are medicalized and discussed in the context of mental health when referring to white children, this is juxtaposed by the same symptoms being discussed in the context of bad (or sometimes criminal) behavior for Black children. This is may in part be due to a structural system of social control.

Social control is the method by which society maintains social order. Under a system of social control individuals are required to conform to a set of standard norms deemed acceptable by groups holding power and privilege. Carmichael suggests that, “Social control is exercised through individuals and institutions, ranging from the family, to peers, and to organizations such as the state, religious organizations, schools, and the workplace. Regardless of its source, the goal of social control is to maintain conformity to established norms and rules. Social control is typically employed by group members in response to anyone it considers deviant, problematic, threatening, or undesirable, with the goal of ensuring conformity” (2014, 1).

Medical social control varies in terms of the types of behaviors that assume certain methods of control (shame, coercion, force, criminalization, etc.). The ways in which people are socially controlled reflects their social status. Thus, behaviors that are ‘redeemable’ for white children and placed under a frame of mental health are not necessarily redeemable for Black children. It is necessary to point out that the medicalization of deviance critiques the individual and not necessarily the social structure in which symptoms are identified and managed. As such, Black children’s symptoms are presumably approached within the context of a larger system of social control which decides whether their symptoms are worthy of being medicalized and managed as a mental health/behavioral condition. This contributes to the current research in developing a structural lens through which to view the management of symptoms by schools, school teachers, parents and medical care.

IV. Distrust of U.S. Healthcare, Structural Racism, and Racial Inequality

Distrust of U.S. Healthcare

Diagnosis and treatment are complex and multifaceted. Decisions do not occur in a vacuum and are not without public influence (McLeod 2007). Physicians are largely autonomous

in their diagnosis and treatment of ADHD and carry culturally-biased judgements of deviance in their assessments of mental disorders (Rafalovich 2005), and can at times practice ‘epistemological uncertainty’ (Fox 2000). I would argue that decisions physicians make concerning symptoms of ADHD do not happen outside of the structural system of power and privilege that shapes Black’s health behaviors and health care utilization around the management of ADHD symptoms.

An important element of the doctor-patient relationship is trust. Trust can impact whether and when a patient decides to seek medical help and the steps that follow in the management of poor health. Studies reveal people who report having experienced racism have worse health outcomes in comparison to people who do not report having experienced racism (Brondolo 2009; Williams and Mohammed 2009).

The evidence regarding whether Blacks have poor or positive attitudes towards mental health care providers is inconclusive. Findings of an empirical study argue that Blacks are in some cases more likely to seek professional help for mental health problems and have attitudes that are more favorable towards mental health help seeking than their white counterparts (Diala 2001). As mentioned earlier, many scholars have reported that Blacks have less trust in physicians than their white counterparts (Armstrong 2007; LaVeist and Nickerson 2000). This might be related to patient's experience of U.S. health care services. For example, Black patients are disproportionately prescribed analgesic medication in emergency rooms (Bernabei 1998; Heins 2006; Goe 2000), experience racially biased treatment from ER triage personnel in emergency rooms who often rate their medical complaints as less serious than their white counterparts (Schrader and Lewis 2013), and have been less likely to be prescribed newer

psychotic drugs for schizophrenia that have calmer side effects than other drugs (Kelly and Dixon 2006).

Mistrust of physicians by Black patients yields unsatisfactory health behaviors such as lower likelihoods of getting screened for cancer (Crawley 2008), enrolling in cancer studies (Mouton 1997), getting tested for diabetes and cholesterol, receiving flu shots (Schneider 2001) and seeking help for mental illness concerns (Nickerson 1994).

To understand Black people's modern struggles with the U.S. healthcare system and ensuing health behaviors, an exploration of the historical exploitation of Black people for medical research must ensue as well as a look at the structural systems of oppression that create and maintain racial inequality. Approaching race as structural is necessary here as race and racism have demonstrated implications for the health outcomes of racially subordinate groups.

Structural Racism

While discrimination and prejudice are individual, racism is structural and carried out by social institutions such as the health care system. The iceberg analogy is helpful here (Gee 2009). The tip of the iceberg represents overt racism that is visible to the naked eye. This might include verbal name calling, cross burning by the KKK, or wearing "blackface" to intentionally mock Black people. It might also include subtle disrespect because of race. While the tip of the iceberg might be problematic, as Gee (2009) explains, the base of the iceberg is hazardous. The base of the iceberg represents structural racism. Structural (or institutional) racism "represents the processes built into social entities—such as governments, bureaucracies, and culture—that reinforce the racial hierarchy" (Gee 2009, 130). It is a macro-level reflection of the procedures, processes, and ideologies practiced within and across institutions of society that produce racial inequality in America.

While legislation and an immediate focus on cultural competency in, for example, medical encounters, might redirect the iceberg's tip (i.e. interpersonal discrimination), they do little to change its base (i.e. racial disparity in population level outcomes). The base of the iceberg - which might include Black peoples access to quality healthcare, residential segregation, and education inequality - does not require individual acts of interpersonal discrimination to maintain its impact (Gee 2009). This means that racial disparities in health outcomes would remain even if the tip of the iceberg was eliminated. Thus, structural racism is not necessarily the result of individual intent, but the foundation of an unequal distribution of power in society based on race.

Feagin's (2013) theory of systemic racism is helpful here. It argues that racism is central to the U.S.' racial hierarchy and "at its core involves separating, distancing, and alienating social relationships" (2006, 21). Overarching arguments of the theory interrogate the process through which whiteness rationalizes racist ideology, linking historical racism to modern racism. To better operationalize the relationship between structural and discriminatory actions, Feagin (2006) introduces the *white racial frame* -- racialized stereotypes, ideas and emotions about Black people that buttress discriminatory behaviors on the part of institutions, and create a space for stereotypical assumptions, images and metaphors concerning people of color. From a structural perspective, it is the *white racial frame* that makes the reproduction of racial privilege possible and maintains a social order. It is also the *white racial frame* that allows whiteness to be detached from non-white persons through the ideological transmission of racialized knowledge that suggests there is a natural system of superiority and subordination explaining racial differences in an array of outcomes (Feagin 2006). As Heitzeg points out, the "white racial frame constructs 'whiteness' as normative and white deviance as [an] individual aberration or

mental illness. Conversely, the white racial frame constructs Blackness as synonymous with criminality... The result is double standards of definition and control which medicalize whiteness and criminalize Blackness” (2015, 197). Feagins’ conversation of the white racial frame begs questions about symptom management of ADHD and whether the structural (i.e. criminalized) frame through which Black children’s behaviors are viewed has a relationship with how symptoms are managed. This body of literature suggests that behaviors of white children that are associated with symptoms of ADHD might garner a different response than Black children who display symptoms of ADHD.

Racial Inequality in the United States

It is necessary to point out that structural racism in the U.S. is largely reflected in the continued oppression of racial/ethnic minorities through the unequal inheritance of wealth. Africans were brought to the U.S. as slaves with no rights. Upon being freed, farm tenancy and sharecropping were black’s most common source of income (Conley 2010). Given this, they were forced to rent farm land and farm tools from white farmers and former slave owners. Challenges with farm laboring and racial discrimination in banking and loan programs put Black people in debt creating a multigenerational pattern of wealth inequality that has persisted into the present (Conley 2010). As recently as 2011 the U.S. Census Bureau Survey of Income and Program Participation reported that while 73% of whites own a home, only 45% of blacks and 47% of Latinos are homeowners. The median wealth of white households is substantially higher than the median wealth of Black and Hispanic households with the average black household having 6% of the wealth of the average white household (Sullivan 2015). Taylor (2011) reported that in 2009 the average wealth of a Black household was \$5,677 and the average wealth of a Hispanic household was \$6,325. This departs from the average white household who had a

wealth of \$113,149 in 2009. Even more revealing is that between 30%-35% of Black and Hispanic households have zero or negative net worth in comparison to 15% of White households (Taylor 2011).

In addition to lower wealth accumulation and substantially lower rates of home ownership, Black people experience higher rates of episodic and chronic poverty, lower returns on education, lower earnings for performing the same jobs as their white counterparts, and disproportionately live in residentially segregated areas compared to their white counterparts (Anderson 2011; Sullivan 2015). Considering wealth inequality and racial residential segregation is central to understanding racial differences in health outcomes because residentially segregated neighborhoods – which are disproportionately occupied by Black people – offer fewer health care facilities with modern technological resources, and have the most poorly trained and least experienced clinicians (Dimick 2013; Popsecu 2011; Williams 2001). This leads to unequal outcomes across socioeconomic groups and across racial and ethnic minority groups who hold disproportionate membership in low income classes. Black people have a lower life expectancy, higher incidence of chronic disease, adult mortality, infant mortality, a greater incidence of disease and disease severity, overall poorer health compared to white Americans, unequal health insurance coverage, and accrue more student debt and medical debt than white Americans (Addo 2016; Goldberg 2004; Goldrick-Rab 2014; LaVeist 2012; LaVeist 2003; Nelson 2002). Racial disparities also exist in mental health care and mental health treatment. While 18.1% of white adults receive mental health treatment or counseling, the same is true for only 9.4% of Black people who are also less likely to receive prescription medication to treat mental health disorders (SAMHSA 2015). These differences are not an anomaly. They are intimately tied to a long history of racism, racial discrimination, and medical racism in the U.S.

Considering a history of racial inequality in the United States is necessary in thinking through the reasons why Black persons might experience differences in how their symptoms of ADHD are managed. It is important to consider the pathways through which structural racism appear in the lives of Black people, and yield outcomes that are not equal to the outcomes of white people. This includes having unequal access to tropes of knowledge due to a socioeconomic status that is generationally lower than white peers.

The following recalls highly publicized historical occurrences have had a substantial impact on Black people's lexicon. These examples work to build a bridge between historical medical racism and modern medical racism. In addition, they work to place health behaviors and health care utilization practices in the context of structural racism, with an eye towards the *white racial frame* and the ways in which racist ideology creates a space for racial differences in health outcomes, mental health outcomes, and medical mistreatment of Black people to be legitimized.

A Brief History of Medical Racism in the U.S.

Race and medical care in America have an extensive history marked with racism and disenfranchisement. The culture of American slavery rationalized and normalized the inhumane abuse of black bodies in the name of medical discovery. In the mid-1800s black slaves in America were legally chattel (Franklin 1994). Having had no rights to their own bodies, slaves were used for medical research without their permission. Research procedures included electric shock, brain surgery, amputation, gynecological experiments, backyard vaginal fistula experiments, invasive scalpel surgeries without anesthesia, birth control experiments, and involuntary sterilization (Hartmann 1995; Kenny 2015; Sims 1884). Many of these experimental surgeries and procedures risked the lives of patients, further depleted their health, and/or disabled them in ways they previously were not. The exploitation of Black people is consistent with a

history of human experimentation that “targeted disadvantaged, marginalized, institutionalized, and stigmatized vulnerable populations” (Kenny 2015:11).

Southern medical schools held a particularly competitive edge due to their supply of cadavers because of their proximity to slave plantations (Savitt 1982). In the early 19th century the idea of donating one’s body to science post-mortem was highly unpopular, leaving medical schools searching for cadavers to use in their anatomy labs. To meet the high demands for cadaver’s medical schools and physicians hired *night doctors*. Night doctors (also referred to as body snatchers, grave robbers and resurrectionists) were men who robbed graves before and after the Civil War for research and teaching (Breedon 1975). *Negro* cadavers were the focus of this effort as medical schools were unconcerned about family members or city authorities drawing light to the use of their postmortem bodies even though human dissection was illegal in many states (Davidson 2007; Humphrey 1973). While white people had the power to resist use of their body for medical education or inquiry, Southern blacks did not (Halperin 2007).

Beyond being used for medical research, southern blacks were also at risk of extremity amputation if they were diagnosed with the psychiatric condition of drapetomania in which slaves run away from their slave masters, or *dysaesthesia aethiopsis* -- a form of madness manifested through disrespect (Cartwright 1851). Both were forms of slave resistance labeled as mental illness. That slaves were not reflecting the social order of a *white* America by remaining in slavery was medicalized and pathologized by slave owners and medical doctors. Even after slavery had legally ended, Black people remained at the center of medical racism and unethical medical research. Many years later other well-known examples of medical mistreatment would ensue such as the *Tuskegee Study of Untreated Syphilis in the Negro Male* (1932-1972) (Brandt, 1978), and the unconsented biopsy of Henrietta Lacks cells (Skloot 2010) in 1951 which would

become instrumental in polio vaccines, gene mapping, parvo virus research, cancer treatments, AIDS, and solving a host of other medical mysteries (Parker 2001; Hou 2002; Scherer 1953; Smith 2004).

While Black people's history of medical distrust likely has an impact on health care utilization and health behaviors, it is important to note that the historical relationship between mental health, race, and medical care has been equally volatile and reflective of medical racism.

V. Conclusion

Blacks' health behaviors and health care utilization decision-making processes are complex. While factors such as socioeconomic status and access to health care play an important role in Black people's lack of psychiatric treatment usage (Andersen 1995), they do not bare sole responsibility for disparities in mental health outcomes. Prior research has documented racial differences in voluntary psychiatric treatment demonstrating that while Black people's rates of mental illness are similar to whites' (Kessler 1996; Robbins and Reiger 1991), their usage of medication to treat psychiatric disorders are disproportionate (U.S. Department of Health and Human Services 2001). It has been argued that Black people hold misperceptions about the intent of psychiatric medications, lack trust in psychiatric medications, and that religious involvement might reduce voluntary usage of psychiatric medications for mental illnesses such as depression, and they have been cited as feeling their children are over-diagnosed with ADHD (Bailey 2005; Sussman 1987). But the idea that these health behaviors and health care utilizations practices concerning mental health are a result of general mistrust of medical care has been challenged.

Schnittker (2003) identified black-white differences in willingness to utilize psychiatric medication and black-white differences in willingness of Black people to administer psychiatric

medication to their children. These differences remained even after controlling for socioeconomic status, trust, knowledge, and religious involvement. Schnittker (2003) argues that black-white mental health disparities are actually rooted in blacks' health beliefs about the efficacy and side effects of psychiatric medications. Schnittker (2003) also argues that disparities in psychiatric medication usage should not be assumed as a symptom of general distrust of medical care, but of specific health beliefs about psychiatric medications. In fact, one study cited a grandmother as suggesting children on medication for ADHD can't be themselves; that medications introduce one to an individuals' representative, not the real person (Moody 2017).

Schnittker (2003) scratches the surface of an important question regarding health behaviors and health care utilization that is relevant to the current study. Specifically, are Blacks' health behaviors and health care utilization practices concerning ADHD due to general mistrust of medical care, specific discomfort with psychiatric medications, the education system, or some other factors that have yet to be realized? Further research must ensue to parse out these differences regarding whether general mistrust of medical care or specific mistrust of psychiatric medical treatment shapes Black people's health behaviors and health care utilization practices concerning management of adolescent ADHD.

While the relationship between race, diagnosis, treatment, health behaviors, and health care utilization have been paid attention to in the literature, few attempts have been made to establish structural racism as the foundation of health behaviors and health utilization practices of Black people who experience symptoms of ADHD. For this reason, the proposed project seeks to examine the ways in which race shapes health experiences of adolescent ADHD.

HYPOTHESIS AND RESEARCH QUESTIONS

The proposed study will examine the landscape in which Black adolescent children experience symptoms of ADHD, and how race gets written into health care utilization practices. This study is specifically interested in Black adults' reflections upon their adolescent experiences with symptoms of ADHD. Thus, the following will employ a mixed methods approach to test four hypotheses and address four research questions. The hypotheses offer a descriptive picture of the relationship between race and self-reported symptom management by working towards understanding self-reported symptom identification, self-reported symptom evaluation and treatment and self-reported symptom management across races. The interviews give depth to the quantitative descriptive picture and aid in more clearly identifying the ways in which race and racism are written into symptom management and how structural racism shapes management of symptoms for all persons responsible for the progression of children including teachers, schools and parents. Both the quantitative and qualitative analyses will be focused on adolescents who have already been screened for various criteria consistent with ADHD as children. Thus, the hypotheses and research questions are focused specifically on this subsample so there is consistency across both samples. The only exception is hypothesis 4, which is not subject to any screening questions for childhood ADHD.

Hypotheses

H1: Black and white adolescents self-report similar symptoms reflective of ADHD.

H2: Parents of white adolescents are more likely than parents of Black adolescents to self-report being notified of symptoms, encouraged to make contact with a professional and receive professional attention for symptoms of ADHD.

H3: Parents of white adolescents are more likely to self-report being prescribed medication for symptoms of ADHD than parents of Black adolescents.

H4: Black adolescents are more likely than white adolescents to self-report enrollment in Special Education classes due to behavioral challenges.

Research Questions

(1) How do Black adults recall the mechanisms utilized to manage behavioral challenges consistent with symptoms of ADHD in their adolescent years?

(2) What are Black adult's perceptions regarding the education system, specifically as it relates to ADHD?

(3) What are Black adult's attitudes towards mental health care concerning symptoms of ADHD?

(4) What are Black adults' feelings surrounding the use of drug therapy to treat ADHD?

QUANTITATIVE METHODS CHAPTER 3

Data Specifications

This study utilizes quantitative and qualitative techniques to explore Black people's adolescent experiences with symptoms of ADHD. The intent of the quantitative component of the study is to offer a descriptive picture of ADHD. The qualitative component – of which this project leans on – intends to further engage with and parse out patterned experiences around symptom management and health care utilization by race that cannot necessarily be measured quantitatively. The data for this study were extracted from both primary and secondary sources. Primary data were collected via semi-structured interviews while secondary data were extracted from the National Comorbidity Survey: Adolescent Supplement (NCS-A) and the NCS-A Parent Self-Administered Questionnaire (PSAQ) administered by the University of Michigan's Institute for Social Research Survey Research Center. The data were accessed upon the approval of the university and the data community housing the survey. The collection and storage of NCS-A and PSAQ data followed the ethical and confidential tenets set forth by the Institutional Review Board as well as the requests of the Institute for Social Research Survey Research Center.

Data Characteristics

NCS-A is a cross-sectional survey for which data were collected between February 2001 and January 2004. The survey is a dual-design, sampling approximately 10,000 U.S. adolescent children between the ages of 13 and 17 who: 1) previously participated in the National Comorbidity Survey-Replication (NCS-R), or 2) attended schools located in the same counties as the households sampled for the NCS-R. This survey was designed to evaluate the patterns, prevalence, distribution, and factors associated with the onset and persistence of adolescent

DSM-IV disorders in the United States. In addition to surveying adolescents, data were also collected from parents (or a parent surrogate) to obtain more detailed information about the adolescents' mental health. The PSAQ survey asked questions that inquired about the five adolescent disorders that have consistently been identified in methodological research as disorders in which parents are heavily involved in the diagnosis process. These disorders included: attention-deficit disorder, conduct disorder, oppositional defiance disorder, major depressive episode, and dysthymic disorder. The NCS-A and PSA-Q are self-identifying surveys. All of the adolescent respondents self-identified as having challenges with symptoms of ADD, and all of the parent respondents identified their children as having symptoms of ADD. The NCS-A and PSAQ data were confidential and was collected via computer-assisted personal interviews (CAPI). Prior to interviews, informed consent was obtained from both parent and adolescents. Except in the rare case of emancipated adolescents, parents or guardians were required to be present during the interview.

Given that the NCS-A and PSAQ arrived as separate files, the datasets were linked using a case-ID to crosswalk adolescent survey results to matching parent survey results. The school sample yielded 9,244 interviews (74.7% response rate) and the household sample yielded 904 interviews (85.9% response rate). A pre-determined weight was applied to the merged adolescent-parent dataset to adjust for the greater efficiency present in the household sample relative to the school sample (Kessler et. al., 2009). The weight accounted for “within household probability of selection and for residual discrepancies between the sample and population on a wide range of census sociodemographic and geographic variables” (ICPSR 2017). A sensitivity analysis was performed with and without the predetermined weight. No difference in significance was identified between the weighted and unweighted samples. Only black and white

respondents were selected to be included in the analyses. This resulted in a sample size of 6,831. It is necessary to mention that while 6,831 respondents were included in the analytic dataset, sample size varied.

The survey questions analyzed for this project were not answered by all respondents. Both the NCS-A and the PSA-Q included screening questions that limited the sample to whom the data applied. Further specification regarding screening questions are included below in the description of variable measures and the results section. Sample size for each question can also be found in the results section. It is necessary to mention that the survey data were clustered. However, the analytic sub-samples utilized for this project were approximately one-fifth of the sample size. As such, standard errors were not adjusted for clustering. After reducing the sample size, there were so few respondents per cluster that adjusting standard errors was not possible. All analytic procedures were performed using SPSS 18.0 software. Attempts to adjust standard errors for clustering were performed in STATA.

Variable Measures

Independent Variable

The analysis considered a single independent variable, race. The variable, race, asks the question “Which of the following best describes your race: American Indian, Alaska Native, Asian, black or African American, Native Hawaiian, Pacific Islander, or white?” Only the black and white adolescents were considered for this study. After extracting black and white adolescent respondents to create a new analytic dataset, the race variable was dummy coded as 1=Black, 0=White.

Dependent Variables

The analyses included nine dependent variables. Two of the dependent variables, addressing hypothesis 1, were from the adolescent dataset and reflect symptoms commonly associated with ADHD including 1) *concentration and attention* and 2) *restlessness and impatience*. The seven remaining variables were from the parent questionnaire and addressed hypothesis 2 through 4 concerning whether parents of adolescents were encouraged to 3) seek *professional treatment* for their child, if the adolescent 4) received *professional help* for symptoms, whether *medication* was 5) *prescribed* to and 6) *received* by the adolescent, and if adolescents were 7) enrolled in *special education* classes for behavioral problems.

Concentration and Attention. The first dependent measure of ADHD symptoms is a 4-point, 7-item scale that asks symptomatic questions regarding lack of attention and concentration beginning before the age of 7. The items were averaged to create a single variable. Response categories for the items ranged from 1=Very Frequently to 4=Never. Items were not reverse coded. Questions include: 1) How often did people say that you did not seem to be listening when they spoke to you? 2) How often did you leave chores, homework or other work unfinished even when you meant to get them done? 3) How often were you unable to keep your mind on what you were doing if things were going on nearby? 4) How often did you dislike, stay away from, or put off doing things that required a lot of concentration? 5) How often did you lose things like assignments or books or other things you needed? 6) How often did you make a lot of careless mistakes in your homework, work, or other activities? and 7) How often did you forget what you were supposed to be doing or what you had planned to do?

To be included, adolescent respondents had to answer a question early in the survey indicating they had challenges with concentration and attention beginning before the age of seven. The question stated: “The next question is about concentration problems that usually start

before the age of seven. These problems include not being able to keep your mind on what you are doing, losing interest very quickly in games or work, trouble finishing what you started without being distracted, and not listening when people spoke to you. During your first years at school—say between the ages of kindergarten and second grade -- was there ever a period lasting six months or longer when you had a lot more trouble with problems of this sort than most children?” Possible answers were “Yes” or “No.”

Restlessness and Impatience. The second dependent measure is an 11-item, 4-point scale measuring restlessness and impatience beginning before the age of 7. Items were not reverse coded. Questions included: 1) How often were you very active even when you were not supposed to be - for example, climbing on things or running around - even after being asked to keep still? 2) How often did you feel very restless? 3) How often were you "on the go," usually taking very little time to rest? 4) How often did you have trouble playing quietly or doing quiet activities like reading for more than a few minutes at a time? 5) How often did you fidget or squirm a great deal when you were sitting down? 6) How often did you get up from your seat when you were not supposed to - like at dinner, at school or at religious services? 7) How often did you talk a lot more than other people your age? 8) How often did you blurt out answers to other people's questions even before they finished speaking? 9) How often did you interrupt people or join other people's conversations without being asked to do so? 10) How often did you try to join games or other activities that were already happening? 11) How often did you have a lot of trouble waiting your turn - for example, how often was it very hard for you to wait in a line or to wait for a teacher to call on you in class before you spoke out loud? The 11 items were averaged to create a single variable. Response categories for the items ranged from 1=Very Frequently to 4=Never. “To be included, adolescent respondents had to answer a question early

in the survey indicating they had challenges with restlessness and impatience beginning before the age of seven. This question stated: Some young kids are very restless and fidgety and so impatient that they often interrupt people and have trouble waiting their turn. Did you ever have a time before the age of seven lasting six months or longer when you were like that?" Possible answers included, "Yes" and "No."

Notification of Symptoms by an Adult for Restlessness and Impatience. The first dependent measure evaluating hypothesis 2 asks parents, "How many teachers or other adults ever told you that (he/she) had problems with restlessness or impatience?" While this variable does not necessarily detail whether the parent was encouraged to seek care, it does offer a window into whether parents were notified regarding concerns of their child's behavior. This variable was dichotomously coded (1=one or more, 0=none).

To be included in the analysis parents had to have indicated that their child expressed at least one of eleven symptoms reflective of restlessness and impatience beginning before the age of 7 that ever lasted six months or longer. Symptoms included: a) Often was very active when not supposed to be – for example, climbing on things or running around even after being asked to keep still b) Often was very restless and could not sit still c) Often was on the go taking little time to rest d) Had trouble playing quietly or doing quiet activities like reading or being read to for more than a few minutes at a time) Usually fidgeted or squirmed a lot when sitting down f) Often got up from (his/her) seat when not supposed to – like at dinner, at school or at religious services? g) Talked a lot more than other kids (his/her) age h) Often blurted out answers before someone could finish asking the question i) Often interrupted people or abruptly joined other people's conversations without being asked j) Often tried to join games or other activities that

were already happening and k) Had a lot of trouble waiting (his/her) turn. These items can be found in Appendix H.

Notification of Symptoms by an Adult for Attention and Concentration. The second dependent measure evaluating hypothesis 2 asks parents, “How many teachers or other adults ever told you that (he/she) had problems with restlessness or impatience?” While this variable does not necessarily detail whether the parent was encouraged to seek care, it does offer a window into whether parents were notified regarding concerns of their child’s behavior. This variable was dichotomously coded (1=one or more, 0=none).

To be included in the analysis parents had to have indicated that their child expressed at least one of nine symptoms reflective of concentration and attention. The question asked: “Before the age of 7, was there ever a time lasting six months or longer when (he/she) often had any of the following problems?: a) often lost things like homework or books, b) Often had trouble paying attention to details or made a lot of careless mistakes in homework, work, or other activities c) Often forgot what (he/she) was supposed to be doing d) People often said that (he/she) did not seem to be listening to them e) Quickly lost interest in games or work f) Was unable to keep (his/her) mind on what (he/she) was doing if things were going on nearby g) Disliked, stayed away from, or put off doing things that needed a lot of concentration h) Got confused when (he/she) had to make plans or decide the order in which to do things and i) Often did not finish chores, homework or other work even when (he/she) meant to get them done and knew how to do them. These items can be found in Appendix J.

Professional Care for Concentration and Attention. The next dependent measure evaluating hypothesis 2 (i.e., black-white differences in encouraging and receiving treatment for ADHD symptoms) asks parents, “How many teachers or other adults ever encouraged you to see

a doctor or other professional about his/her attention or concentration problems?” This variable was dummy coded as 0=no one encouraged parent to see a doctor or professional concerning child’s attention/concentration problems and 1= one or more teachers or other adults encouraged parent to see a doctor or professional concerning their child’s attention/concentration problems. To be included in the analysis parents had to have indicated that their child expressed at least one of nine symptoms reflective of concentration and attention. These items can be found in Appendix J.

Professional Treatment for Concentration and Attention. Another variable was also utilized to assess hypothesis 2. This variable asks parents, “Did he/she ever receive professional treatment for his/her attention or concentration problems?” This dependent variable was dummy coded to create two categories; one indicating that the respondents’ child did receive professional treatment and the second indicating the respondents’ child did not receive professional treatment for his/her attention or concentration problems (1=Yes and 0=No). To be included in the analysis parents had to have indicated that their child expressed at least one of nine symptoms reflective of concentration and attention beginning before the age of 7, as detailed above.

Professional Treatment for Restlessness and Impatience. A second dependent variable measuring hypothesis 2 asks parents, “Did he/she ever receive professional treatment for problems with restlessness or impatience?” For this variable, professional treatment means treatment by a medical doctor, health care professional or specialist. This dependent variable was dummy coded to create two categories; one indicating that the respondents’ child did receive professional treatment and the second indicating the respondents’ child did not receive professional treatment for his/her attention or concentration problems (1=Yes and 0=No). To be included in the analysis parents had to have indicated that their child expressed at least one of

eleven symptoms reflective of restlessness and impatience beginning before the age of 7 that ever lasted six months or longer, as detailed above. Screening items can be found in Appendix H.

Prescribed Medication for Concentration and Attention. In addressing hypothesis 3, Parents were asked of their adolescent child: “Was he/she ever prescribed medication for attention or concentration problems?” The variable was dummy coded (1=Yes and 0=No). To be included in the analysis parents had to have indicated that their child expressed at least one of nine symptoms reflective of concentration and attention beginning before the age of 7, as detailed above. Screening questions can also be found in Appendix H.

Special Education. The final dependent variable addresses hypothesis 4 and asks parents, “Did the adolescent receive: Special class for children with behavioral problems?” This variable was dummy coded as 1=Yes, adolescent did receive special class for children with behavioral problems and 0=No, adolescent did not receive special class for children with behavioral problems. To be included in this question, parents had to report their adolescent as having symptoms of a mental health condition earlier in the survey.

Control Variables

Regression analyses for hypotheses 2 through 4 controlled for sex of adolescent, socioeconomic status of adolescent (income, household location, parent’s level of education) and DSM-IV classification self-reported lifetime: Attention Deficit Disorder (ADD), Oppositional Defiance Disorder (ODD), General Anxiety Disorder, Conduct Disorder (CD), and the spectrum of bipolar disorders including Bipolar I, Bipolar II, and Bipolar Sub. The sex variable was dummy coded (Male = 1, Female = 0). The income component of socioeconomic status is a continuous variable measured in tens of thousands of dollars by family household income for all sources over the previous year. Household location was evaluated by the item asking, “Have you

been raised mostly in a large city, suburbs of a large city, a small city, a town or village, in a rural area, or moved around?” Individual response categories were dummy coded to meet the assumptions of logistic regression, with the reference category being “moved around.” Response categories were also dummy coded for the education variable asking the highest education earned by either parent (less than high school, high school, some college), with the reference category being “college degree”. The DSM-IV classification self-reported lifetime conditions were coded (0= No, 1= Yes).

Analytic Strategy

The intent of the quantitative component is to offer a descriptive picture of racial differences in experiences of symptoms of ADHD. Prior to evaluating hypotheses, descriptive statistics and logistic regressions were performed to assess for the potential of racial differences between the survey population and inclusion in the sub-samples. Thereafter, an independent samples t-test was utilized to test Hypothesis 1, evaluating any potential differences in self-reported symptom presentation among Black and white children. The remaining hypotheses 2-4 were tested using a chi-square analysis and logistic regression analysis that included several variables (mentioned above) as controls. There are six logistic regression models for each hypothesis 2-4. Model 1 includes race of adolescent only. Model 2 include race and sex of adolescent. Model 3 includes demographic variables of the adolescent: respondent’s household income, household location, and parent’s highest level of education. Model 4 adds DSM-IV classification of ADD and Model 5 includes an interaction term (Race*ADD). Finally, Model 6 includes the remaining DSM-IV classification variables considered for this project (Oppositional Defiance Disorder (ODD), General Anxiety Disorder, Conduct Disorder (CD), and the spectrum of bipolar disorders including Bipolar I, Bipolar II, and Bipolar Sub). A pre-determined weight

was applied to the dataset to adjust for the greater efficiency present in the household sample relative to the school sample (Kessler et. al., 2009). In the interest of space, Models 3-6 are reported in tables below. Models 1-2 are available upon request.

QUANTITATIVE RESULTS

CHAPTER 4

Racial Differences in NCS-A and PSA-Q Sub-Samples

To assess racial differences in who might have responded to the full survey versus screening questions regarding symptoms of ADHD, descriptive statistics were analyzed for the survey population (Appendix D) and the NCS-A adolescent sub-samples (Appendix E, Appendix H) and PSA-Q parent sub-samples (Appendix J, Appendix M). There were two adolescent sub-samples for H1: 1) adolescents self-identifying as having difficulties with concentration and attention and 2) adolescents self-identifying as having difficulties with restlessness and impatience. Over half (65%) of the adolescents responding to a question inquiring if they had ever experienced problems with concentration and attention identified as male and 23% identified as Black (Appendix E). These descriptive are a shift from the demographic response to the full sample used for this study in which 18% identified as Black and 51% as male (Appendix D). To test for racial differences in adolescent participants responding to the adolescent screening question for concentration and attention, chi-square and logistic regression were performed. The results of the chi-square between race and the NCS-A screening question for concentration and attention were significant (Appendix F). Logistic regressions findings suggest that race, sex, parent's educational attainment, and income were significant predictors of self-identifying as self-identifying as having had challenges with concentration and attention (Appendix G).

Adolescent respondents answered a second screening question asking if there was ever a time before the age of seven lasting six months or longer where they were restless and fidgety. Nineteen percent of the adolescents for this sub-sample identified as Black and 60% identified as

male (Appendix H). The male population for this sub-sample exceeds the male population for the full sample by 9%. A chi-square analysis logistic regression was performed to evaluate racial differences in adolescent participants responding to the adolescent screening question for restlessness and impatience. The chi-square between race and the NCS-A screening question for restlessness and impatience was insignificant. Results of the logistic regression suggest sex, parents having some college attainment and household income were significant predictors of adolescents self-identifying as having had challenges with restlessness and impatience (Appendix I).

In addition to sub-samples for H1, there were also two parent sub-samples for H2 and H3. These samples included parents who identified their child as having had challenges with 1) concentration and attention and 2) restlessness and impatience. Parents were asked if before the age of 7, there was ever a time lasting six months or longer when their child often had any problems with concentration and attention. Of the parent participants who responded to this question, 19% of their children were black and 61% were male (Appendix J). A chi-square analysis and logistic regression was performed to evaluate racial differences in parent participants responding to the PSA-Q screening question identifying their child as having difficulty with concentration and attention. The chi-square analysis testing the relationship between race and the PSA-Q screening question for attention and concentration was significant (Appendix K). However, the results of the logistic regression indicate race was not a significant predictor. Rather, sex, parent's educational attainment and income were significant predictors of parent's identifying their child as having had challenges with concentration and attention (Appendix L).

Finally, parents were asked if before the age of 7, their child ever have a time lasting six months or longer when he/she often had problems with restlessness or impatience. Of the parent participants who responded to this question, 17% of their children were black and 63% were male (Appendix M). A chi-square analysis and logistic regression was performed to evaluate racial differences in parent participants responding to the PSA-Q screening question identifying their child as having difficulty with concentration and attention. Results of the chi-square analysis show a significant relationship between race and the PSAQ screening questions for restlessness and impatience (Appendix N). However, the logistic regression indicates race as an insignificant predictor. Rather, sex, parent's 'less than high school' educational attainment and parents having had some college attainment were significant predictors of parent's identifying their child as having had challenges with restlessness and impatience (Appendix O).

Overall, it seems boys were included in sub-samples for symptoms of ADHD more often than girls. This is demonstrated in both the descriptive statistics and the logistic regressions, and is unsurprising given the literature suggests boys symptoms are treated differently than their female counterparts. Also, parents' educational attainment status and household income seems to predict inclusion in sub-samples. It is necessary to mention that the proportion of Black children in the full sample versus Black children included in the sub-samples were similar. We only find racial difference in adolescents who identify themselves as having challenges with concentration and attention.

Results of Hypothesis

Hypothesis 1 posits that Black and white adolescents have similar symptoms of ADHD. An independent samples t-test was used to evaluate differences in self-reported symptoms of restlessness, impatience, concentration and attention on the race variable. For the analysis of

black-white differences in restlessness and impatience ($p < 0.05$), there were 128 black adolescent respondents (mean = 2.608, std. deviation = 0.623) and 700 white adolescent respondents (mean = 2.481, std. deviation = 0.629). For the second analysis of black-white differences in concentration and attention ($p=0.410$), there were 131 black adolescent respondents (mean = 2.489, std. deviation = 0.652) and 488 white adolescent respondents (mean = 2.435, std. deviation = 0.641). Results both challenge and support Hypothesis 1. The item evaluating restlessness and impatience was significant, suggesting that there is a racial difference in having experienced symptoms such as being squirmy or fidgety, talking when inappropriate, etc. Black respondents reported more symptoms of restlessness and impatience than white respondents. The racial difference in concentration and attention was however insignificant, suggesting that Black adolescent respondents experience similar symptoms to white respondents related to leaving chores or homework unfinished, steering away from activities that require concentration, etc.

Hypothesis 2 postulates that white adolescents are more likely than Black adolescents to be encouraged to and receive professional treatment concerning common symptoms of ADHD. Given the dichotomous coding of the independent race variable and the dependent restlessness and impatience and attention and concentration variables, chi-square analyses were performed. Though weak in strength, the results of the analyses were significant.

One thousand two hundred and thirty-seven parents responded to a question asking how many teachers or other adults ever told them that their child had problems with restlessness or impatience. A significant association was found ($\chi^2 (1) = 5.305, p < 0.05$). White parents were more likely (57.5%) than Black parents (48.8%) to be told by either teachers or other adults that their child had a problem with restlessness and impatience (Table 1).

Because the chi-square was significant, a logistic regression was performed to further examine the relationship between race and being told a child had challenges with restlessness and impatience (Table 2). For parents being told their child had problems with restlessness and impatience, race ($p < .05$) and sex ($p < .001$) remained significant in all models. When controlling for sociodemographic characteristics and DSM-IV conditions, the parents of white children were more likely than the parents of Black children to be told their child had problems with restlessness and impatience. Also of interest is that, controlling for all variables, the odds of being told a child has issues with restlessness and impatience is 2.977 ($p < .001$) times higher for parents of male adolescents than parents of female adolescents. Additionally, parents having less than a high school degree had a 3.709 ($p < .05$) higher odds of being told their child had problems with restlessness and impulsivity. Finally, it seems that parents who had a child meeting the DSM-IV criteria for ADD had a 2.995 ($p < .05$) higher odds of being told their child had issues with restlessness and impulsivity.

One thousand five hundred and eighty-seven parents responded to a question asking how many teachers or other adults ever told them that their child had problems with concentration and attention. The association between race and notification of symptoms for concentration and attention was not significant ($\chi^2 (1) = 1.557, p > 0.05$) (Table 3). A logistic regression was performed to further examine the relationship (Table 4). For parents being told their child had problems with restlessness and impatience, race ($p < .05$) and sex ($p < .001$) remained significant in all models. When controlling for sociodemographic characteristics and DSM-IV conditions, the parents of white children were more likely than the parents of Black children to be told their child had problems with concentration and attention. Also of interest is that, controlling for all variables, the odds of being told a child has issues with concentration and attention is 2.780 ($p <$

.05) times higher for parents holding less than a high school degree, 2.346 ($p < .001$) higher for parents holding a high school degree and 1.786 ($p < .05$) higher for parents with some college than for parents with a college degree or more.

One thousand six hundred and thirty parents responded to a question asking whether teachers or other adults encouraged them to have their adolescent see a doctor or professional concerning attention and concentration. A significant association was found ($\chi^2 (1) = 27.02, p < 0.00$) (Table 5). White parents were more likely to be encouraged to seek help for their child (41.5%) than Black parents (25.1%). And 1,671 parents responded to a question asking whether their adolescent received professional treatment for concentration and attention problems ($\chi^2 (1) = 31.59, p < 0.00$) (Table 6). As expected, results suggest that white parents have a higher likelihood than their black counterparts to be encouraged to seek and receive professional treatment to mitigate their adolescents' symptoms of ADHD.

Table 1. Chi-Square of Black-White Differences in in Noticing Restlessness and Impatience

		Race of respondent			
		White	black	Total	Chi-Square
no	Count	439	104	543	5.305*
	% within Race	42.4%	51.2%	43.9%	
	Count	595	99	694	
yes	% within Race	57.5%	48.8%	56.1%	

* = $p < .05$, ** = $p < .001$.

Table 2. Regression for Black-White Differences in Noticing Restlessness and Impatience

(N = 732)

		Model 3	Model 4	Model 5	Model 6
	Variable	Exp(B)	Exp(B)	Exp(B)	Exp(B)
	Constant	0.86*	0.657	0.667*	0.56*
<u>Sociodemographic Factors</u>	Race (Black = 1)	0.484*	.512*	0.491*	0.529*
	Sex (Male = 1)	3.102**	3.090**	3.094**	2.977**
Parent Education	Less Than High School	3.561*	3.493	3.531*	3.709*
	High School	1.466	1.335	1.329	1.287
	Some College	1.590	1.549	1.560	1.589
Income	Income	1.004	1.005	1.006	1.003
Household Location	Large City	.972	1.190	1.185	1.214
	Suburbs	1.107	1.359	1.347	1.300
	Small City	.361	.431	.424	.455
	Town/Village/Rural	.545	.684	.672	.744
<u>DSM Diagnosis</u>	Attention Deficit Disorder		3.015*	2.765*	2.955*
	Race*ADD			2.022	1.741
	Oppositional Defiance Disorder				1.247
	General Anxiety Disorder				0.406
	Conduct Disorder				1.712
	Bipolar I				11.797
	Bipolar II				5.468
	Bipolar Sub				1.744

Notes: Dependent Variable - How many teachers or other adults ever told you that (he/she) had problems with restlessness or impatience? * = p < .05, ** = p < .001

Table 3. Chi-Square of Black-White Differences in in Noticing Concertation and Attention

<i>Chi-Square Race *Noticing Concentration and Attention</i>					
		Race of respondent		Total	Chi-Square
		white	black		
no	Count	315	79	394	1.557
	% within Race	24.19%	27.72%	24.82%	
yes	Count	987	206	1193	
	% within Race	75.81%	72.28%	75.17%	

* = $p < .05$, ** = $p < .001$.

Because chi-square was significant, logistic regression was performed to further examine the relationship between race and professional care for symptoms of ADHD. For parents being encouraged to see a doctor or professional concerning their child’s attention and concentration, race and sex remained significant ($p < .001$) in all models (Table 7). When controlling for sociodemographic characteristics and DSM-IV conditions, there is an inverse relationship between race and parents being encouraged to seek professional treatment for their child – that is, the parents of Black children are less likely than the parents of white children to be encouraged to seek professional care for problems with attention. Also of interest is that, controlling for all variables, the odds of a teacher or adult encouraging a parent to see a doctor or other professional concerning their child’s attention is 4.38 times higher for parents of male adolescents than parents of female adolescents. Additionally, parents having less than a high school degree ($B = 1.27$, $p < 0.000$), a high school degree ($B = 0.73$, $p < 0.05$), and some college ($B = 1.344$, $p < 0.000$) (relative to a college degree) inversely predicted the likelihood of being encouraged to see a professional regarding their child’s symptoms.

Table 4. Regression for Black-White Differences in Noticing Concentration and Attention

(N=657)

		Model 3	Model 4	Model 5	Model 6
	Variable	Exp(B)	Exp(B)	Exp(B)	Exp(B)
	Constant	7.647	5.926	5.783	5.791
<u>Sociodemographic Factors</u>	Race (Black = 1)	.559*	.578*	.607*	.588*
	Sex (Male = 1)	3.624**	3.707**	3.691**	4.139**
Parent Education	Less Than High School	2.631*	2.692*	2.670*	2.780*
	High School	2.399**	2.376**	2.383**	2.346**
	Some College	1.685*	1.637	1.638	1.786*
Income	Income	1.013	1.016	1.016	1.014
Household Location	Large City	.136	.157	.159	.138
	Suburbs	.122	.140	.141	.117
	Small City	.149	.170	.174	.144
	Town/Village/Rural	.102	.120	.122	.107
<u>DSM-IV Classification</u>	Attention Deficit Disorder		4.134*	5.716*	4.561*
	Race*ADD			.252	.292
	Oppositional Defiance Disorder				1.730
	General Anxiety Disorder				2.186
	Conduct Disorder				1.687
	Bipolar I				4.589
	Bipolar II				.871
	Bipolar Sub				.461

Notes: Dependent Variable - How many teachers or other adults ever told you that (he/she) had problems with attention or concentration? * = $p < .05$, ** = $p < .001$

Table 5. Chi-Square of Black-White Differences in Encouragement to see Professional for concentration and attention

<i>Chi-Square *Encourage to see Doctor or Professional</i>					
		<u>Race of respondent</u>		Total	χ^2
		white	Black		
no	Count	785	215	1000	27.024**
	% within Race	58.50%	74.90%	61.30%	
	Count	558	72	630	
yes	% within Race	41.50%	25.10%	38.70%	

* = p < .05, ** = p < .001.

Table 6. Chi-square of black-white differences in receiving professional treatment for concentration and attention.

<i>Chi-Square *Receive Professional Treatment</i>					
		<u>Race of respondent</u>		Total	χ^2
		white	Black		
no	Count	897	241	1138	31.595**
	% within Race	65.10%	82.00%	68.10%	
	Count	480	53	533	
yes	% within Race	34.90%	18.00%	31.90%	

* = p < .05, ** = p < .001.

Findings regressing race and the control variables on adolescents ever receiving professional treatment for his/her attention or concentration problems were significant across models (Table 8). Race and sex remained significant across all models (p < 0.000) and, as expected, the models demonstrate that white children and male children have a higher likelihood

of receiving professional treatment for attention and/or concentration problems as compared to Black children and female children.

Table 7. Regression of Black-White Differences in Encouragement to see Professional for Concentration and Attention (N = 633)

		Model 3	Model 4	Model 5	Model 6
	Variable	Exp(B)	Exp(B)	Exp(B)	Exp(B)
	Constant	0.659	0.531	0.54	0.408
<u>Sociodemographic Factors</u>	Race (Black = 1)	0.133**	0.140**	0.128**	0.123**
	Sex (Male = 1)	4.193**	4.173**	4.213**	4.375**
Parent Education	Less Than High School	3.580**	3.512**	3.587**	3.563**
	High School	2.240**	2.191**	2.181	2.076*
	Some College	3.693**	3.595**	3.623**	3.834**
Income	Income	1.023	1.025*	1.025	1.021
Household Location	Large City	0.48	0.543	0.537	0.669
	Suburbs	0.214	0.24	0.238	0.271
	Small City	0.216	0.243	0.238	0.290
	Town/Village/Rural	0.258	0.287	0.287	0.3620
<u>DSM-IV Classification</u>	Attention Deficit Disorder		2.830*	2.462*	2.066*
	Race*ADD			3.398	4.258
	Oppositional Defiance Disorder				0.251
	General Anxiety Disorder				0.856
	Conduct Disorder				0.000
	Bipolar I				3.265
	Bipolar II				3.497*
	Bipolar Sub				0.737

Notes: Dependent Variable – How many teachers or other adults ever encouraged you to see a doctor or other professional about his/her attention?

* = $p < .05$, ** = $p < .001$

Table 8. Regression of Black-White Differences in Receiving Professional Treatment for Concentration and Attention (N = 646)

		Model 3	Model 4	Model 5	Model 6
	Variable	Exp(B)	Exp(B)	Exp(B)	Exp(B)
	Constant	0.568	0.479	0.490	0.492
<u>Sociodemographic Factors</u>	Race (Black = 1)	0.186**	0.192**	0.149**	0.144**
	Sex (Male = 1)	2.313**	2.268**	2.297**	2.330**
Parent Education	Less Than High School	2.078*	2.022*	2.172*	2.052*
	High School	1.046	1.021	1.046	0.979
	Some College	1.587	1.538	1.589	1.587
Income	Income	1.011	1.012	1.014	1.01
Household Location	Large City	0.673	0.752	0.739	0.704
	Suburbs	0.542	0.605	0.594	0.528
	Small City	0.443	0.494	0.467	0.429
	Town/Village/Rural	0.39	0.432	0.415	0.393
<u>DSM-IV Classification</u>	Attention Deficit Disorder		2.147*	1.718*	1.345*
	Race*ADD			6.319*	7.827*
	Oppositional Defiance Disorder				1.689*
	General Anxiety Disorder				0.742
	Conduct Disorder				1.500
	Bipolar I				2.707
	Bipolar II				1.729
	Bipolar Sub				0.808

Notes: Dependent Variable – Did he/she ever receive professional treatment for his/her attention or concentration problems? * = $p < .05$, ** = $p < .001$

Of note is that in Model 4, prior to including the Race*ADD interaction term and DSM-IV classification variables into the model, children with ADD had a 2.14 higher odds ($B = 0.764$, $p < 0.05$) of receiving professional treatment than children who did not report a DSM IV-classification of ADD. The inclusion of DSM-IV variables substantially adjusted the significance of the relationship between ADD and receiving professional treatment. Finally, adolescents with

a DSM IV-classification of Oppositional Defiance Disorder ($B = 0.524$, $p < 0.05$) had a 1.69 higher chance of receiving professional care with all control variables included in the model.

An interaction term for race by ADD was added to determine if Black adolescents with a DSM IV-classification of ADD would be more or less likely to be referred to and encouraged to seek professional treatment for symptoms of ADHD. This interaction was not significant for being encouraged to seek professional treatment. Interestingly, the interaction was significant for seeking professional treatment. However, the results of the interaction indicate that the Black disadvantage ($B = -1.922$, $p < .001$) for seeking professional treatment for symptoms is largely eliminated for adolescents with DSM-levels of ADD symptoms (interaction = $B = 1.844$, $p < .05$).

One thousand two hundred and eighty-six parents responded to a question asking if their child ever received professional treatment for problems with restlessness or impatience. A significant association was found ($\chi^2 (1) = 12.645$, $p < 0.001$). Black parents were less likely (11.47%) than white parents (22.1%) to ever receive professional treatment for problems with restlessness or impatience (Table 9).

Because the chi-square was significant, a logistic regression was performed to further examine the relationship between race and ever receiving professional treatment for problems with restlessness or impatience (Table 10). Race ($p < .05$) remained significant in all models, indicating that white adolescents had higher odds than Black adolescents of seeing a professional regarding symptoms of restlessness and impatience. Upon the inclusion of sociodemographic variables in Model 4, the sex variable became insignificant. Adolescents meeting the DSM-IV criteria for ADD had a 6.334 ($p < .001$) higher odds of seeking treatment for challenges with restlessness and impatience in Model 6. And adolescents meeting the DSM-IV criteria for

Bipolar Sub had a 3.775 ($p < .001$) higher odds of seeking treatment for challenges with restlessness and impatience.

Table 9. Chi-Square of Black-White Differences in Treatment for Restlessness and Impatience

		Race of respondent		Total	Chi-Square
		white	black		
no	Count	832	193	1025	12.645*
	% within Race	77.90%	88.53%	79.70%	
yes	Count	236	25	261	
	% within Race	22.10%	11.47%	56.10%	

* = $p < .05$, ** = $p < .001$.

Hypothesis 3 suggests that white respondents are more likely than black respondents to be prescribed and take medication to mitigate symptoms consistent with behavioral challenges. Like hypothesis 2, the independent and dependent variables for hypothesis 3 were dichotomously coded. A Chi-square test of independence was calculated comparing the frequency of medication being prescribed in Black and white respondents (Table 11). A significant association was present ($\chi^2 (1) = 27.83, p < 0.001$). White respondents were more likely to be prescribed medication to treat symptoms of ADHD (30.1%) than Black respondents (15%).

Table 10. Regression of Black-White Differences Treatment for Restlessness and Impatience (N = 706)

		Model 3	Model 4	Model 5	Model 6
	Variable	Exp(B)	Exp(B)	Exp(B)	Exp(B)
	Constant	0.75	0.029*	.0310*	.023*
<u>Sociodemographic Factors</u>	Race (Black = 1)	0.247**	0.247*	0.188*	0.226*
	Sex (Male = 1)	1.702*	1.568	1.559	1.341
Parent Education	Less Than High School	.915	.742	.802	.916
	High School	1.088	.917	.938	.932
	Some College	1.129	1.122	1.171	1.192
Income	Income	.976	.980	.981	.979
Household Location	Large City	7.489	17.291	16.529	17.579
	Suburbs	4.504	10.208	9.532	10.422
	Small City	2.859	5.895	5.317	0.150
	Town/Village/Rural	3.797	8.212	7.527	8.662
<u>DSM Diagnosis</u>	Attention Deficit Disorder		7.719**	6.527**	6.334**
	Race*ADD			3.319	2.080
	Oppositional Defiance Disorder				1.667
	General Anxiety Disorder				0.936
	Conduct Disorder				0.950
	Bipolar I				2.068
	Bipolar II				3.725
	Bipolar Sub				3.775**

Notes: Dependent Variable - Did (he/she) ever receive professional treatment for problems with restlessness or impatience? * = $p < .05$, ** = $p < .001$

Logistic regression analyses were performed to further evaluate these relationships with control variables (Table 12). As expected findings show an inverse relationship between race and ever being prescribed medication for attention or concentration, and a positive relationship between sex and ever being prescribed medication for attention or concentration problems in all

five models. Thus, white children and male children have a higher probability of ever being prescribed medication for attention and concentration problems. Of interest is the significant effect of the Race*ADD interaction term on the dependent variable in Models 5 ($B = 1.732, p < 0.05$) and 6 ($B = 1.904, p < 0.05$).

Table 11. Chi-square of black-white differences in prescribed medicine for Concentration and Attention

		<i>Chi-Square Race*Prescribed Medicine</i>			
		Race of respondent		Total	
		white	black		Chi-Square
no	Count	962	250	1212	27.828**
	% within Race	69.90%	85.00%	72.60%	
yes	Count	414	44	458	
	% within Race	30.10%	15.00%	27.40%	

* = $p < .05$, ** = $p < .001$.

In these models, the Black-white differences are still significant in Models 5 ($B = -1.461, p < .001$) and 6 ($B = -1.48, p < .001$). Thus, Black and white adolescents with a DSM- classification of ADD would have similar likelihoods of being prescribed medication for symptoms with a slight advantage even occurring for Black adolescents. With all variables controlled in Model 6, of further note is the significance of a DSM IV-classification of ADD ($B = 0.617, p < 0.05$) and Oppositional Defiance Disorder which has 1.93 higher likelihood ($B = 0.658, p < 0.05$) of ever being prescribed medication for concentration and attention problems.

Hypothesis 4 postulates that Black respondents are more likely than white respondents to have been enrolled in Special Education classes for behavioral challenges. Of the parents surveyed, 5,033 answered a question inquiring whether their child was ever in a special class for

children with behavioral problems. Chi-square findings ($\chi^2 (1) = 76.43, p < 0.001$) indicate that Black children (8.5%) are enrolled in special classes more often than white children (2.4%) (Table 13).

A logistic regression was performed to better understand the relationship between race, predictor variables, and enrollment in special education classes for behavior with control variables (Table 14). In Models 4 and 5 racial differences in being enrolled in special education classes for behavioral problems seem to be explained by sociodemographic factors (sex of adolescent and parent educational attainment). Upon inclusion of comorbid conditions in Model 6, racial differences on the dependent variable was only weakly significant ($B = 0.533, p < 0.049$).

Summary of Quantitative Results

Hypothesis 1 suggests Black and white adolescents have similar symptoms of ADHD. An independent samples t-test was used to evaluate differences in self-reported symptoms of restlessness, impatience, concentration and attention on the race variable. Black adolescents self-reported a higher frequency (than white adolescents) of symptoms of restlessness and impatience. These symptoms included being squirmy or fidgety, talking when inappropriate, etc. However, adolescents did not self-report having any difference in frequency of symptoms associated with concentration and attention such as losing belongings, making careless mistakes on homework and demonstrating an inability to pay attention when distractions are around.

Hypothesis 2 offered that white adolescents are more likely than Black adolescents to be encouraged to and receive professional treatment concerning common symptoms of ADHD. Results found that the parents of white children were more likely than the parents of Black children to be told their child had problems with restlessness and impatience. This also seemed to

be the case for children whose parents hold less than a high school degree and parents of children who met the DSM-IV classification for ADD. Results also demonstrated that white children and male children have a higher likelihood of receiving professional treatment for attention and/or concentration problems as compared to Black children and female children. While quite mild in power, race was a significant predictor in all models evaluating receiving professional treatment for symptoms of restlessness and impatience, suggesting that white children received treatment more often than Black children. In addition, adolescents meeting the DSM-IV criteria for ADD and Bipolar Sub had a higher odd of receiving treatment for challenges with restlessness and impatience.

Hypothesis 3 states that white respondents are more likely than black respondents to be prescribed and take medication to mitigate symptoms consistent with behavioral challenges. Findings demonstrated an inverse relationship between race and ever being prescribed medication for attention or concentration, and a positive relationship between sex and ever being prescribed medication for attention or concentration problems in all five models. Thus, white children and male children demonstrate a higher odd of being prescribed medication for challenges with attention and concentration.

Hypothesis 4 states Black respondents are more likely than white respondents to have been enrolled in Special Education classes for behavioral challenges. Receipt of school services seemed to be best explained not by race, but by the sex of the child (male) and the educational attainment of the parent, with parents holding less than a high school diploma demonstrating much higher odds of their child receiving school services for challenges with behavioral problems.

Table 12. Regression of Black-White Differences in Ever Prescribed Medicine for Concentration and Attention (N = 646)

		Model 3	Model 4	Model 5	Model 6
Variable		Exp(B)	Exp(B)	Exp(B)	Exp(B)
	Constant	0.146*	0.109*	0.113*	0.117*
<u>Sociodemographic Factors</u>	Race (Black = 1)	0.298**	0.31**	0.232**	0.228**
	Sex (Male = 1)	1.745*	1.687*	1.703*	1.732*
Parent Education	Less Than High School	1.428	1.363	1.469	1.349
	High School	1.138	1.099	1.13	1.05
	Some College	1.074	1.013	1.05	1.024
Income	Income	1.003	1.006	1.008	1.004
Household Location	Large City	1.699	2.032	1.982	1.761
	Suburbs	1.956	2.359	2.299	1.935
	Small City	1.443	1.72	1.607	1.406
	Town/Village/Rural	1.868	2.238	2.129	1.922
<u>DSM-IV Classification</u>	Attention Deficit Disorder		3.151**	2.529*	1.854*
	Race*ADD			5.654*	6.712*
	Oppositional Defiance Disorder				1.931*
	General Anxiety Disorder				0.886
	Conduct Disorder				1.443
	Bipolar I				2.841
	Bipolar II				1.16
	Bipolar Sub				0.972

Notes: Dependent Variable – Was he/she ever prescribed medicine for attention or concentration problems? * = p< .05, ** = p< .001

Table 13. Chi-square of race by special class for behavioral problem.

<i>Chi-Square Race*Received Special Class for Behavioral Problem</i>					
		Race of respondent		Total	x2
		white	black		
No	Count	4167	700	4867	76.437**
	% within Race	97.60%	91.50%	96.70%	
Yes	Count	101	65	166	
	% within Race	2.40%	8.50%	3.30%	

* = $p < .05$, ** = $p < .001$.

Table 14. Regression of Black-White Differences in Receipt of Special Class for Behavior

(N = 346)

		Model 3	Model 4	Model 5	Model 6
	Variable	Exp(B)	Exp(B)	Exp(B)	Exp(B)
	Constant	0.02**	0.018**	0.019**	0.013**
Sociodemographic Factors	Race (Black = 1)	1.279	1.356	1.616	1.705*
Parent Education	Sex (Male = 1)	2.516**	2.426**	2.394**	2.575**
	Less Than High School	12.594**	11.659**	11.202**	11.845**
	High School	4.543**	4.348**	4.320**	4.028**
	Some College	2.616*	2.512*	2.384*	2.244*
Income	Income	1.007	1.004	1.004	0.998
Household Location	Large City	0.896	0.941	0.862	1.094
	Suburbs	0.448	0.498	0.455	0.569
	Small City	0.278	0.298	0.286	0.336
	Town/Village/Rural	0.279	0.301	0.278	0.342
DSM-IV Classification	Attention Deficit Disorder		2.728*	3.953**	2.577**
	Race*ADD			0.006	0.008
	Oppositional Defiance Disorder				0.364
	General Anxiety Disorder				3.331
	Conduct Disorder				1.811
	Bipolar I				1.415
	Bipolar II				2.858
	Bipolar Sub				1.636

Notes: Dependent Variable – Child received special class for children with behavioral problems.

* = p < .05, ** = p < .001

QUALITATIVE METHODS CHAPTER 5

Data Collection

The qualitative component articulates the ways in which Black adults experienced symptoms of ADHD in adolescents and the continued management of their symptoms in adulthood. Ten interviews were conducted. Saturation has been documented as occurring within the first 12 interviews, and meta-themes within the first 6 interviews (Guest 2006). For this study, saturation was reached when no new information or themes were found (Fusch 2015, 1413). Distinctive from quantitative research, the purpose of qualitative research is not necessarily to generalize results to a specific population of interest. Interviews captured patterns in experiences that could not necessarily be identified in statistical analysis.

The data were collected through semi-structured interviews with adults 18 and over who identified as African American or Non-Hispanic Black. The method of semi-structured interviewing entailed having a predetermined set of questions to guide the interview, and leaving space for the interviewee to elaborate or offer new points of discussion that they felt was important to their experience. This allowed for detailed responses that illuminated patterns not previously considered. Interviews centered on participant's adolescent experiences of ADHD symptoms. Questions focused on attitudes towards physicians and medical care, feelings about the use of drug therapy to treat ADHD and behavioral disorders, perceptions regarding classroom experiences with symptoms, labeling and stigmatization and how participants parents managed behavioral problems in their adolescent years.

To ensure eligibility for participation, subjects were screened through an online survey and asked to confirm that they 1) identified as African American or Non-Hispanic Black 2) were 18 years of age or older 3) began experiencing symptoms consistent with ADHD beginning

before the age of 12¹ and 4) were enrolled in a college or graduated with a college degree. The online survey also asked demographic information including the participant's age, gender, race, parents' highest level of education, and the geographic location of their hometown. Further questions asked whether participants had ever been professionally diagnosed with ADHD or a behavioral disorder, if they had ever been treated with drug therapy by a medical professional, if they continue to utilize drug therapy specifically for ADHD, and if they were recipients of special school services.

This study received Western Institutional Review Board (WIRB) approval on July 17, 2018. Documents in Appendix C includes the WIRB consent form. Data collection and storage activities were consistent with the ethical and confidential standards set forth by the WIRB. As a part of this, all data were required to be stored on a locked device that was password protected. The WIRB's required letter of informed consent thoroughly explained the research to the participant and required a signature to confirm agreement with participation and having read the consent form. This research was certain to maintain consistency with the rules of the WIRB and further ensure that individuals were not identified in the reporting of results and the interviews, themselves, did not pose any harm or threat to study participants. To ensure confidentiality in the reporting of findings, all names were removed from transcripts and replaced with pseudonyms as to protect the identity of the participant.

The WIRB approved a \$10 gift card incentive for each participant which was supplied by the researchers' personal funds. All participants were offered an Amazon gift card as a notice of thanks for their involvement in the study. Receiving of the \$10 Amazon gift card was not

¹ Verifying the timing of symptom onset was an important component of qualification for participation in an interview as DSM-IV identifies first symptoms of ADHD occurring before the age of 12.

dependent upon a participant's completion of the interview. Participants were sent Amazon gift cards via e-mail addresses, which were kept separate from their transcript materials to maintain anonymity.

Participant Recruitment

A recruitment message was developed ahead of the study to enroll eligible participants in the research project. The message was distributed to all students who subscribed to a graduate student listserv, Black Graduate Student listserv (BGSO), and Black Organization Council (BOC) listserv at a southern university, and various university listserv geared towards Black students across the country. The recruitment message described the study, outlined eligibility, specified information about the incentive offered, provided a link to the demographic survey and included contact information (see Appendix A). The recruit messages appeared on the graduate student and BGSO listserv on two different occasions, for a period of three weeks each. And the message was distributed on the BOC listserv as well as university listserv across the country one time. This method resulted in the recruitment of five participants of the sample of ten. The remaining participants were recruited by snowball sampling. This method entailed a word-of-mouth recruitment system wherein study participants were encouraged to share the study with others who they thought might meet the eligibility criteria. This method proved valuable in recruiting the remaining five participants.

Table 9. Demographic Participant Chart

Participant Name	Age	Gender	Educational Attainment	Number of Parents in Household	Diagnosed with ADHD in adolescence	Diagnosed with ADHD in adulthood	Self-Reported Comorbid Conditions
Sara	21	Woman	Undergraduate Student	1	N	Y	None
Patrick	23	Man	Undergraduate Student	1	N	Y	Depression
John	33	Man	PhD Student	2	N	N	N/A
Joel	31	Man	PhD Student	2	N	N	Autism Spectrum Disorder, Depression, Anxiety
Jessica	30	Woman	Nurse Practitioner Student	2	N	Y	None
Jenny	26	Woman	Recent PhD Graduate	1	N	N	Depression, Anxiety, Bipolar Disorder
Jamie	24	Woman	MA-level Graduate Student	1	N	Y	Depression, Anxiety
Charles	32	Man	PhD Student	2	Y	N/A	Oppositional Defiance Disorder, Developmental Coordination Disorder, Developmental Expressive Disorder, Expressive Language Disorder
Krista	31	Woman	Undergraduate Student	2	N	N	Generalized Adjustment Disorder
Daniel	38	Man	PhD Student	2	N	Y	None

Participants

Interviews were held with 10 individuals for this research. This number successfully supplied a range of experiences in which common themes were evident and detailed accounts of experiences were thoroughly assessed. The final sample for this study was diverse by educational attainment, gender, and experiences. Demographic information about the subjects of the study are summarized in Table 9. Data saturation was met at 10 participants, therefore additional data were not collected. Regarding educational attainment, two of the participants were undergraduate students, one was a Masters student, four were PhD students, one was a recent graduate from a PhD programs, and one was a recent graduate from a graduate nursing program. Of these individuals, five were women and five were men. Three of the respondents, all women, were diagnosed with ADHD or ADD in adulthood. One male respondent was diagnosed with ADHD at the age of three, five respondents, both men and women, were clinically diagnosed with

comorbid conditions such as depression, anxiety and bipolar disorder, yet still expressed during the interview that they had (and continue to experience) symptoms of ADHD that began in early.

Coding and Analysis

Interviews followed a semi-structured approach. Participants answered the intended questions that directly reflected the interests of the project. They were also encouraged to expand upon their personal experiences and introduce new items of discussion. Each interview was exploratory and ranged from 45 to 90 minutes. After transcribing interviews transcripts were transferred to NVivo to conduct data analysis and coding. The initial coding schema was comprised of themes that were expected to arise during the interview process based on current literature that discusses Black people's management of symptoms. For example, broad codes were initially developed for the methods Black parents used to manage symptoms including, discipline and physical punishment.

The first three interviews were coded by reviewing the transcripts and assigning codes line-by-line. From this, further codes emerged. In addition to adding codes for some of the unanticipated methods utilized to manage symptoms and Black adult's management of symptoms in adulthood, additional codes incorporated subcategories into some of the original codes. For example, 'structured time' emerged as an unexpected sub-code in parent's management of symptoms. Similarly, further sub-codes were added to existing codes that highlighted patterned experiences. For instance, the code for self-recognition of symptoms was further expanded to differentiate between two new sub-codes: triggers to seeking care and comorbid triggers to seeking care.

Technology and Transcribing

The interviews were conducted and recorded between October 2018 and February 2019 using Zoom video chat software and recorded using Zoom video chat audio recording. All participants were directed prior to the interview to find a private space with minimal distractions and background noise. After each interview, voice recordings were outsourced to a transcription service, Temi.com. Data transcripts were thoroughly reviewed for errors and accuracy of interpretation was assured by re-listening to audio recordings multiple times.

QUALITATIVE RESULTS

CHAPTER 6

The purpose to the qualitative component of this study was to explore Black adult's adolescent experiences of ADHD symptoms, relationship with healthcare, and adult behaviors around healthcare utilization concerning symptoms. What follows answers four research questions: (1) How do Black adults recall the mechanisms their parents utilized to manage behavioral challenges consistent with symptoms of ADHD in their adolescent years? (2) What are Black adults' perceptions regarding the education system, specifically as it relates to ADHD? (3) What are Black adults' attitudes towards mental health care concerning symptoms of ADHD? (4) What are Black adults' feelings around the use of drug therapy to treat ADHD?

The interview data collected revealed the ways in which race shaped Black adults during their adolescent years, the ways in which subjects felt race intersected with their experience of symptoms in grades K-12, approaches that were utilized by schools and parents to manage symptoms, and the ways in which race shapes management of symptoms in adult years. Many of the points of discussion in the original interview document were talked about and expanded on. This revealed additional themes that were particular to this specific population being interviewed. Many of the themes that emerged were consistent with what previous literature has taught us about minority groups, and added information we had not previously known about Black people's relationship with the education system, and the mental health care system.

Findings

Research Question 1: How do African American adults recall the mechanisms their parents utilized to manage behavioral challenges consistent with symptoms of ADHD in their adolescent years?

To understand how symptoms were managed, participants were asked questions about how they were taught proper behavior. Participants spoke at length about learning what represents “good behavior.” Subjects seemed to develop a framework for what is considered acceptable behavior at home, in school, and in social settings by their parents. All the participants noted that their parents heavily influenced their understanding of what constitutes “good behavior” and how “good behavior” was to be performed. Two categories emerged from the data: Parental Influence on “Good Behavior” and Parental Management of Symptomatic Behavior.

Parental Influence on “Good Behavior”

Code-Switching

Code-switching ²was a common mechanism used by parents to both teach proper behavior and pro-actively manage unacceptable behavior. This was demonstrated through verbal communication and non-verbal cues. Participants clarified that the relationship between race and behavior was taught to them oftentimes without verbally discussing race. And that there were very clear expectations of how they were to behave around white people vs. Black people in their childhood. Sara recalls this of her upbringing when speaking about watching her parents’ behaviors fluctuate:

Because I see, you know, when we’re hanging out with the family or like any other Black people, you know, there’s a different way in how they talk versus when we’re going to talk to my neighbors [who are white] or like, if my brother’s caseworker [who is white] came by and they had a meeting with them, like it was immediate, like different tone,

² Code-switching is a linguistic and behavioral process of evaluating a situation and presenting oneself in a manner appropriate for the setting. This often means a shift in dialect, an adjustment in clothing, taming of behavior or a modification in body language.

different mannerisms. Like even the laughs are different and I'm just like, so, I guess I was like, okay, definitely there's a different way we need to interact [with white people].

This revelation was similar for Jamie, who watched her mother, a government worker, modify her behaviors based on the type and race of people she might be interacting with both professionally and socially. A point of interest is when Jamie identifies a difference in her mother's tone of voice and mannerisms around white people, but also the necessity of a particular appearance in predominately white spaces:

My mom worked in government...very, very high up, so it was a very white environment. When she would go out into the government, she got all prim and proper. Her voice would get higher, like she had to dress and differentiate her hair. A lot of preparation went into her being in a very mostly white situation versus us going to...our grandparents house. Or like just going to a barbecue or cookout. Like even dinner at a restaurant with our black family was not treated in the same way under the same preparation. I actually learned how to like act in public because my mom was like you can't act like this in a government setting [a white space] or at a party. But that's a non-verbal way of assimilating. The hair straightening too...so I got a relaxer³ very young and the whole negative connotation of having your kitchen⁴ like all bunched up. Like you know what I'm talking about. So she did that too because she grew up in Jim Crow. She did what she had to do to survive.

Here, when Jamie references her "kitchen," she is highlighting the ways in which her mother impressed upon her the necessity to both assimilate into white culture and behave and

³ Also, referred to as a 'perm,' a relaxer is a chemical hair product used to straighten the coarse texture of a Black woman's hair.

⁴ Coarse hair located at the nape of a Black woman's neck.

present herself in a manner that mimicked white behavior so that she might fit in and not stand out by acting different. Also of interest is how Jamie connects code-switching in white spaces and modifying behavior in “mixed company” with Jim Crow and making behavioral adjustments to be able to, as her mother suggests, “survive.”

Other participants echoed similar sentiments of non-verbal cues their parents offered. For example, Charles, who lived on a military base and attended racially diverse schools, has vivid memories of his mother changing her tone when speaking to white people: “Hell sometimes, the way my mom switched her voice on the phone. Hell, you could know that was a code switch. So I’m like well.. Momma why you talking to these white people like that? As I got older I understood what it was....you had to know the importance of that code switch at least as a black male.”

And Jessica who lived in a suburban white neighborhood and attended affluent white schools from elementary through high school, recalls instances of her parents, who grew up in predominately Black neighborhoods, code-switching:

I saw my parents do things differently because their first language was not [white] suburbia. And so I knew that like my dad when he relaxed, his relaxed was different than it was when he was around maybe different people... it was just small subtleties that were more of what he didn’t do when he was with, um, you know, in a predominately white situation.

She also mentions that as she got older there were conversations around the fact that she would be looked at differently in school and social settings compared to her white friends, due in part to the color of her skin. And that:

“their [white peoples’] standard or what they [white people] accept as manners or appropriateness is just different than what we [Black people] among ourselves would think of as standard appropriateness.”

In general, participants seemed to articulate an underlying similarity – that their parents expected and demanded their behavior in school and in social situations be superior to their white counterparts as a matter of life success. This meant that in school settings, any behaviors that might align with symptoms of ADHD were unacceptable and contrary to their success as young people of color. Seven of the ten participants articulated the repercussions that would occur if they behaved at school in a way that was not consistent with their parent’s behavioral expectations or displayed what they remembered to be behaviors that reflected symptoms of ADHD.

Parental Management of Symptomatic Behavior

Fear of Parents for “Acting Up”

Overall, the participants reported generally positive relationships between their parents and teachers, with parents initiating conversations with teachers, ensuring teachers knew who they were and that they cared about the success of their child. In part, this relationship between teacher and parent seemed to shape the ways in which symptoms were handled. Jenny, who describes herself as a good student that did not get in much trouble, was clear on her mothers’ expectations of her at school: “I was not terrified of her [Jenny’s mother] but I knew I needed to act correctly in school because I was afraid of doing anything so as to not get in trouble with the teacher. So, talking like all loud or whatever.” This was similar for John who shared that at the annual school open-house, his mom would give her phone number and e-mail address to his teacher. John’s mom encouraged the teacher to call her if he or she were to encounter any

difficulties with him. Teachers did in fact contact his parents for issues such as inattention, inability to engage, and drawing and writing poetry in class when he should have been paying attention to the lecture. When asked how his parents responded, and if they considered his symptoms reflective of ADHD, he shares: “I don't think they really knew. I don't think they' really associated that with being something that was blocking me or anything like that. I think it was more so you need to pay attention. It's kinda like that philosophy, ‘uh, we don't have no ADHD, you just need your ass whooped.’”

Joel, a graduate engineering student, remembers the relationship between his parents and teachers being comparable to John's, such that if he expressed behaviors (associated with ADHD), teachers would not hesitate to call his parents:

I had the type of parents where if anything went wrong in school, the principal could just call my parents and they would show up in school and if they need to sit in class with you, they will sit in class with you throughout the day. So, it wasn't like, ‘oh so and so you need to behave when you're in this sort of environment.’ Like yeah, well if I don't behave, I know my parents will leave work and come to school.

Joel mentions getting in trouble for behavioral problems most often when he was in elementary school. He attributes this to having attended a Christian school and not a public school. But he also says that he got in trouble for what he identifies as behavioral challenges more often than his classmates, and that his symptoms were handled through punishments:

They (the Christian elementary school) would do paddling. So, if I was acting out they would call my parents and just be like, oh, he's acting out. He can either go to detention or do a paddling and whatnot. And my mom was like, go ahead. Do it. So, I got a lot of

paddling and probably like almost every week or every other week... I had the most out of my class.

Like Joel, Krista's elementary school used the paddle as a method to discipline students for misbehaving. While Krista never received the paddle as a form of discipline at school, she tells that this was only due to her mother permitting the school from paddling her. When Krista would have behavioral challenges at school she says, "my mom was like, 'no, ain't nobody whooping my child.' So she [Krista's mother] came down and she, you know, would hand me out my butt whooping. Then I went back to class." This system of physical punishment as a way to manage behavior was similar to Jamie who expressed a sense of fear of her mother growing up in relation to her symptomatic behavior. Upon being asked if she felt she had a reasonable fear of her parents such that her symptoms were managed well, she comments: "No. Not at all." In fact, she says, "I think the fear increased for me. Yeah so it actually got worse because I'm a very impulsive, outspoken person and my mom could not handle that. So it was like, it just increased when I got older because it's like she had to keep me in line."

Jamie and John remember their mother's giving them "the look." John explains that he was often given "the look" before he would encounter white people – a sign to behave in an appropriate manner in front of non-Black persons. Jamie describes "the look" as a non-verbal cue to "get your shit together" when she behaved in a manner that her mother deemed unacceptable. This included being unable to sit still, fidgeting, and talking too much. She also articulates her mother's management of symptoms as a "non-verbal, want to go to the bathroom, get smacked" method.

Structured Time

For nine of the ten participants, symptoms were not professionally addressed in adolescent years. As another approach for managing symptoms, participants articulated that their parents structured their time outside of school in a way that utilized their symptoms in a productive manner. This meant being involved in out-of-class activities, remaining active in sports, and requiring chores to be completed at home. John's mother immersed him in extracurricular activities such as football, dance troop, and an all-boys performance group. Patrick, an undergraduate student who was born in Africa but spent most of his adolescent years in the U.S., was also involved in activities. He recalls that his mothers' response to his high energy and lack of classroom engagement was to have him involved in clubs. While he said this approach was "fine," he also impressed that it did not address his core issue with symptoms of ADHD (which he was not diagnosed with at the time). While this method might not have solved the challenges he was experiencing, Patrick does credit this structured time with helping to mitigate his adolescent symptoms:

After my parents got me involved in activities, um, I guess it helped a little bit or mitigated the effects of the symptoms and the same thing was true in high school, um, I was involved in a lot of activities. And my mom tried to make sure I was busy. She had me schedule my day to day activities so you know, after I would come back from football practice or wrestling practice...you know, she would explicitly have me, you know, either she was sending me to do this, do that before I can maybe relax, you know, shower, eat, do homework. She pretty much had my whole day structured, you know. And I think I want to say that that definitely helped a lot with some of the symptoms I experienced.

The importance of structured time through out-of-school activities was also a significant component of symptom management for Charles. Charles, who was diagnosed with oppositional defiance disorder, developmental coordination disorder, developmental language expressive disorder, and ADHD at the age of three, said that while his parents initially accepted the diagnoses, they pushed back against them and worked towards helping him to express his symptoms in other structured ways: “I started playing soccer when I was, um, four, five, I still played soccer til I was 18 in high school and you know, that was good. That was a sport. They [Charles’ parents] looked at implementing things like that which can help development.” As he got older his parents were certain to take a more holistic approach to managing his behavior that created opportunities for him to leverage his symptoms in a productive way that was both enjoyable and developmentally fruitful for him.

Research Question 2: What are Black adult’s perceptions regarding the education system, specifically as it relates to ADHD?

Participants were asked to explain how their symptoms were treated at school and how symptoms may or may not have impacted their school work. Eight of the 10 participants articulated feeling as though they were pointed out at school for behaviors consistent with ADHD more often than their peers. A single theme detailing symptom recognition emerged. In early non(recognition) participants detail their symptoms being recognized in the context of the classroom but not necessarily addressed as concerns that needed to be met with professional evaluations. Many of the participants considered themselves to have been strong students in their younger years, with symptoms posing more of a challenge for teachers and not necessarily academic achievement. Thus, their relationship between school and symptoms was mainly in

relation to their role in maintaining or disrupting the classroom environment, which for nine of the 10 participants, was never met with professional evaluation.

Symptom Recognition

Early (Non) Recognition

Sara, who was diagnosed with ADHD when she got to college, remains unsure if the teacher called on her so often because her behavior was more of a distraction than the other students or if, even though other students might have behaved similarly, she was pointed out because she was the lone Black face in an academically accelerated classroom of white children. She said:

The only issues I had were being talkative, bossy and not paying attention to things, not paying attention to the teacher, and talking when the teacher's talking. Like the most that would happen would be they would just tell me to stop or something like that. But I never got in any real trouble. Like I was a good student and my teachers liked me, so it wasn't an issue. Um, you know, every once in a while they would just be like 'Sara, and whoever I was talking to at the time, just stop.' But I never gotten in any administrative trouble. I feel like definitely some teachers would definitely pick on me more because there'd be other kids in the class talking as well and louder and for a longer period of time and then I'd open my mouth and say something and then they would pick on me. I don't know if it was just cause...I was the one black face in the sea of white kids that I was just more noticeable. And anytime I did something it was like, you know, they notice everything I did.

Jessica, who was diagnosed with ADHD in college, expresses a similar sentiment – that while she was an excellent student, earned great grades, and had a good rapport with her

teachers, she still seemed to be called out in class. When asked if she felt like the behavioral messages she received at school were similar or different to her classmates, she says:

Yeah, like you know, if all the kids in the class are talking and I'm talking...or if six of the kids in the class or talking, Jessica might be recognized as talking first and sometimes that might be rooted in something that's not right, like you know, race, racial related. In other times it might be simply because someone's going to see me first because I stand out [as the Black girl in the class] and so I just need to be on my best behavior or understand that like you're not going to just get away with something or you know, someone's not going to not see you if like there's a bunch of kids over there doing something bad. People might not remember that Ashley [a white classmate] was over there, but they'll remember I was over there because I stand out. There's a black person over there and I'm the only one. So it had to be Jessica. I would always get confused with the one or two other black girls where like, all they saw was Black, so it was you. It's like, no. Did you even look? We don't look anything alike. I was not a bad kid but I remember always feeling like, and this could just be perception...I feel like I always stood out like meaning, like she was doing it too. You know what I mean?

While symptoms consistent with ADHD did not necessarily impact Sara's or Jessica's scholastic achievements, it seemed that they had clear memories of their adolescent behavior being a challenge to the teacher in the classroom. And more importantly, they expressed that being pointed out for their behavior might have had some relationship to the color of their skin. It is important to note that Sara and Jessica's teachers never discussed these symptoms with their parents as needing any sort of professional evaluation. In fact, when Sara discussed her symptoms she takes time to note that her teachers' main comments were that she was "bossy"

toward the other students: “My problem or whatever on my report cards was always that I was just too talkative and too bossy. I remember that was on my first-grade report card was that “Sara is really smart, but she's just too...the kids think she's too bossy.” So, like from elementary school to middle school it was like, okay, I got to tone down the uh, trying to take over everything and like, you know, just being a leader I guess in the nice way.”

John also mentioned being pointed out in class more often than other students for behavior that was equally exhibited by his classmates. And while John’s mother was contacted regarding his behavior, like Sara and Jessica, his teachers never suggested to his mother that he should seek professional evaluation. In fact, John’s mother requested that he be transferred to another class with a different teacher. An extension of Sara, Jessica and Patrick’s experiences is Jamie’s revelation that being Black might have blocked her access to receiving the proper attention for her behavior. Unlike Jessica and Sara, she was not necessarily considered a high-achieving student in her younger years.

While Jamie struggled with adolescent education, she was still successful enough to gain admission to a well-ranked university. She expressed her dismay with the education system regarding her adolescent symptoms. She suggests that race might have impacted her access to special education classes that could have helped her development and yielded her greater academic success early on, well before she received a diagnosis of ADHD in adulthood. When asked how race shaped her diagnosis process, she responds:

Um, it helped a lot with my identity as a black person. To just know that I had the diagnosis because it helped me realize that my whole life people just expected me to not be a high achiever, to not do well and therefore they did not want to help me with understanding why I was behaving the way that I was. Um, the lack of disinterest I got

from my, um, you know, white teachers compared to my other classmates. They were, you know, writing reports about their students. Like someone was telling me, oh yeah, I'm going to, you know, special classes because, you know, the teacher thinks that I need extra help. Like that's what I heard from my other classmates. And we were very similar people so I didn't understand. And looking back, I'm like, yeah, they did not care enough or could not look past their perceptions of who I was as a person to think like maybe they need extra help or something bigger is going on. It was just once and then never brought up again versus people that I knew who were, you know their parents were very involved. The teachers were calling their parents. Um, all that was obviously very different for me, so yeah, looking back it's annoying and it does show that race does come into play and it definitely affected my quality of care and how I was treated by the people who were responsible for my education.

While Jamie does not necessarily express being pointed out in class or disciplined more often than her classmates, she is sure to locate how race impacted her experience of symptoms. Jamie even makes mention of the frustration her teachers expressed at her lack of attention in class. And she is certain to point out how she internalized their management of her symptoms:

I have the tendency to blurt things out. So that was a huge thing. But also just the frustration [from teachers] was always a common theme of me not getting something or um being slow to respond or just needing extra time to do something. It was always like, 'ugh, you're doing something again.' Also, um, there was one teacher in particular, I couldn't pay attention in class, so I'd always be just reading a book instead of listening to her. So she would just take my books away rather than just asking me like, 'Why are you

failing class? Why don't you want to pay attention?' Instead of getting to know me, I felt she would get to know her other students.

Jamie articulates a clear sense of being undervalued relative to the other students in her class. A common theme among the interviewees is that they all expressed symptoms that were in some capacity recognized by their school teachers as problem behaviors, but not necessarily as ADHD symptoms. It is meaningful that the participants were certain to identify race as a commonality among why their behavior might have been treated different than their classmates, even if unintentional. The recognition of their symptoms by school teachers was not necessarily met with drastic administrative disciplinary action (such as expulsion or detention) or recommendations for professional evaluation, yet they were significant enough for participants to identify as noteworthy.

Research Question 3: What are African Americans' attitudes towards mental health care concerning symptoms of ADHD?

A sense of self-recognition of symptoms happened in adulthood for nine of 10 participants wherein their symptoms were not necessarily being addressed by parents or teachers as needing professional evaluation. Instead, the effect of their symptoms became evident, academically. Two findings emerged that seemed to shape attitude towards mental health, in general, and mental health concerning symptoms of ADHD :1) unhealthy view of mental health care in formative years and 2) self-recognition.

Unhealthy view of mental health care in formative years

Prayer will Change Things

Eight of the 10 participants expressed that growing up, their families did not have positive views of mental health professionals, and that when mental health was discussed, it was used to negatively label family members with mental illness. This seemed to shape participants lack of interaction with mental health care providers in their adolescent years as nine of the 10 participants were never seen by a professional regarding symptoms.

Krista's younger brother was diagnosed with Bipolar I and depression in his youth. While he was treated for his challenges, other family members were not. Her mother was previously diagnosed with bipolar disorder, and her maternal grandfather showed heavy symptoms of bipolar disorder: Krista says, "She [Krista's mother] never received any medical treatment for it [bipolar disorder]. She was always taught, um, through religion, like, oh, nothing's wrong with me. I'm not crazy. Um, you know, 'God will heal me' or 'I'll pray this out. That's nothing but the devil.' Upon Krista further encouraging her mother to seek care, her mother again impressed that she is not 'crazy.' Krista remembers her mother's attitude towards mental health treatment as:

It's not something wrong with you because mental illness was always looked at, especially in the Black community as a taboo. Um, you know, 'Ain't nothing wrong with you. Nothing prayer can't change or your belief in God can't change.

That's the devil - mental health issues.' Um, especially being black women. Um, she [Krista's mother] was, you know, dealing with a lot, you know, you're strong. You're supposed to deal with it, you know, you got it. You know, that ain't nothing. You can handle this when you got all the weight of the world.

Charles, a doctoral student, mentions, "I rarely heard about my peoples going to a psychologist or things like that. My mom always looked at prayers as the answer, so, you know, they didn't really want to go talk to somebody." And Jenny, who has been diagnosed with

multiple comorbid conditions as an adult but showed symptoms of ADHD as a child described her mother's views on seeing a mental health professional as "a white people kind of thing."

Labeling

Other participants, like Jamie and Sara, recalled family members who had mental health challenges that were never discussed. Sara, who has an autistic brother whose needs were actively addressed, expressed that even so, mental health was not a topic for discussion among her family when she was young. She mentions that:

Mental health in general. Um, I guess there's a lot of distrust I guess, in the whole field of psychology. I guess it's not really a tangible thing you can see it's not really, I guess obvious of how beneficial it is. I feel like generally what I've seen is Black parents really don't like putting labels on their kids. So you know, you're not, you know, you don't have anything wrong with you, you're just like, if you're not depressed, you're just going through some things, she'll get through it. It's okay. You know, you're not anxious, you just like, you know, you get nervous or sometimes or you're a little shy. It's always something you'll just get over or get through or something like that. So it's not really a pressing issue in our family that's addressed.

Sara identified the lack of discussion around mental health as attributing to her experience of symptom management. She went on to express discomfort around the way ADHD and other mental illnesses seem to be labeled and characterized within Black communities:

I just feel like the image of ADHD in general just needs to be changed I guess because I know there's definitely a stigma at least definitely in the black community on any sort of mental health label, whether it be ADHD or something like bipolar disorder or anything like that. There's a lot of fear and stigma in the black community of, of being labeled.

Like Sara, Jamie has a family member with a mental illness – an aunt who was diagnosed with Schizophrenia. She says, “People would mention oh she's crazy and then that would be it. It was just always very negative connotations associated with mental health, illness and getting help and associating with those people was, something that it was just not done.” Not being associated with mental illness was such an important component of Jamie’s upbringing that when she encountered her first serious bout with anxiety, she was pressured by her family to remain quiet about the challenges she was experiencing:

I had a really, really, really bad anxiety attack when I was 19. I went to the hospital for it and it just blew up in my face. I like thought I was going to have a heart attack and they’re like [Jamie’s parent’s], ‘No! You can’t tell anyone you have mental health issues! You can’t tell anyone you’re in the hospital!’ It was a really, almost like confrontation, like very violently confrontational thing for me, like being afraid I was dying. They were more afraid of the negativity that comes with mental health issues than the actual mental health issues.

While many of the participants were clear in describing the unhealthy and oftentimes negative views of mental health that their families held when they were young, this did not seem to fully deter them from seeking care for their challenges in adulthood. But seeking care was often triggered by a series of events. While the families of majority of the participants were uninterested in seeking care for mental health, the participants for this study did not necessarily seem to follow suit.

Self-Recognition

Triggers to Seeking Care

Seven of the participants identified an inability to manage symptoms in adulthood as the trigger to seek care. It was not until adulthood that they recognized their symptoms as debilitating to their lives or overall success. Participants personal approach to mental health seemed to differ from the perceptions that were prominent in their upbringing. Jessica, who was initially diagnosed with ADHD in college, described how a sense of overwhelming responsibility that she could not seem to manage prompted her to seek professional care:

The more complex my life got, the more debilitating it [symptoms of ADHD] was. It was an actual problem for every area in every single area: school, running track, my friendships, my finances, literally everything. And it was stressful and I couldn't get a grip and nothing would change. I couldn't change it. Like no matter how hard I was like trying and just like I can't, like I can't, I just can't focus. It's like I have all this stuff to do and I cannot focus for a long time like I just can't or like I'm, I don't know, it was like, like it, it was bad.

Jamie shares a similar story – that she did not find it necessary to seek care until she was unable to order her life in a way that was conducive to her success. While she describes herself as a bit of a mediocre student in adolescence, she felt that her symptoms were manageable. It was when she entered college that she could no longer maintain average performance:

I had concentration issues throughout you know childhood, middle school, high school. But at that point it didn't really matter because I didn't, I didn't care. I was just like, I'll do the bare minimum and get by. It doesn't matter. I don't need to study. Like when I actually had to apply my um, you know, critical thinking skills or pay attention to the classes that I really need to pay attention to, um having like the wherewithal to do it, it was just like not there. I would not do well on tests even though I would study forever

and I would get to tests and I would blank on it. I'm like, I know this stuff, like what's wrong with me? And it was like really important. Like I'm a food scientist so it's like food science classes I need to like actually need to be a food scientist. I'm like, well, I get these concepts, but I'm studying for hours and hours. I get to the test and I'm freaking like getting fifties on them. Then I get into grad school. I'm like, I can't even sit down and read a paper and um, you know, focus on reading and writing. I got to read all these papers, that's like really difficult. And then um just impulse, my impulsivity is like not acceptable anymore because I'm in a professional academic setting. So, having a hard time reeling myself in and not trusting myself as much or you know, it just became an issue. So, I think I talked to my therapist about this about ADHD. And it got tested.

When Sara was asked about what made her seek professional care for her symptoms, she expressed very similar sentiments to Jessica and Jamie. Like Jessica, Sara, who was eventually diagnosed with ADHD in college, was a great student. She was in the gifted and talented program in her adolescent years, even attending a separate school for students who excelled academically. But, this seemed to change drastically when she started college:

K through 12, I could just eat, I didn't have to study. But coming to college and actually having to study and having to actually focus in lectures and stuff and knowing that okay, this thing that I couldn't do for the past whatever years was fine, but now that I'm in college. I actually need to do something about this so that I can succeed. Like my freshman year, my grades were like not good at all. So that's what really prompted me to go [seek professional care]. I was like, I can't do this for the next four years.

While most of the respondents did not recognize the impact of their own symptoms until college, Krista was aware that she was slowly losing control when she was in high school. When asked the time period when her symptoms began interfering with her life, she explains:

...it had to be like in high school, um, when I started taking AP classes and around this time my brother, he was sick [with a heart condition], so I was going to be around like 11th and 12th grade years in high school. Um, having like all this course load. Also my mom was living at the Ronald McDonald House in Chapel Hill. So, he [Krista's brother] was on a heart transplant wait list and I could not focus. I stopped running track, kind of stopped, you know, doing extracurricular activity. All of it was gone. So, it was just like, okay, what am I supposed to do? It was really really hard to concentrate. I was not passing my classes, so I got bumped down to honors classes.

An unexpected, and somewhat tragic event occurred in Krista's life that changed her day-to-day sense of normalcy and highlighted the challenges she was having. Like the other participants, Krista's loss of structure seemed to have a large impact on her ability to manage her symptoms.

Co-Morbid Triggers to Seeking Care

Most of the participants seemed to have triggers to seeking care that were associated with academic performance and significant changes between high school and college in terms of their ability to manage school work. Five of these participants expressed that their triggers to seeking care, while related to unsatisfactory academic performance, were conflated with comorbid challenges. This ultimately served as a catalyst to their seeking of mental health care. Joel, who was diagnosed with a form of Autism in college, experienced symptoms for many years before he sought care. He shares that like Jessica, Jamie and Sara, his initial point of self-recognition –

that he might have a problem, occurred in college when he sought professional help regarding his inability to manage his life:

The balancing act of everything I was doing. Because the classes and work and everything. So uh, I was stressed and stressed at just having to learn how to deal with people because the more things you have to do and the more people you've got to work with the more stressful it gets. So that's why I was there [seeing a university psychologist], to sort of work on managing. So, like managing my life at the time. So that's what the initial setup [seeking mental health care] was for.

Joel goes on to share that it was through this process of seeking mental health care for symptoms of ADHD, and his overarching sense of being overwhelmed with adult life, that he came to a diagnosis of Autism Spectrum Disorder (ASD).

So at least for me, any sort of diagnosis didn't happen until college. [ASD and ADHD] overlap somewhat in their symptoms because you can have someone with ASD who also fidgets, has trouble paying attention, and they can be likely to have a sort of comorbidity with ADHD. But not everyone with ASD has ADHD.

Patrick's adult journey to seeking mental health care was a bit more extensive. While Joel had a teacher that suggested he seek professional services offered on his college campus relatively early in his higher education journey, Patrick struggled with symptoms of ADHD and depression in silence without any intervention. Patrick was eventually diagnosed with ADHD and depression. Upon being asked what the tipping point was to encourage him to seek mental health care, Patrick said he had to first hit rock bottom:

Well, it didn't really happen until I kinda hit bought bottom per se. This problem was happening. I didn't quite understand it. I was still very ignorant of the issue. Maybe

because I chose to ignore it. Maybe I didn't want to accept the fact that, you know, there's nothing wrong with me. You know, I'm lucky to be alive and a perfectly healthy person, you know, it's just, I'm going through a phase, right? Um part of it was probably that. But eventually I was unhappy with what was going on. I was unhappy with my performance in general. That kind of led to some issues with depression and it kinda snowballed because I would, you know, I would do things that weren't conducive to me being successful academically. I wouldn't understand why and that would make me really, first mad, and then sad because I know that I have the potential to do more, but for whatever reason I'm not. And then I'll get, I'll get mad and sad and then I would kind of um, punish myself in a way by, you know, just, just removing myself from society. Just kind of locked myself in and sleeping all day. And then that would snowball because then I would feel bad again for not taking care of my responsibility. Eventually it gets to a point where I just feel like for a whole month I did not leave my apartment. And, you know, after a while my roommate came to me and said, man, you know, what's going on, what's happening? You know, maybe you should talk to someone. I mean that, that was probably, that was back in 2016. That was probably the worst semester I've had and then after that semester, that's when I realized, you know, maybe I needed to hit rock bottom for me to accept the fact that there is an issue and if I don't deal with it, I'm never going to get better.

Other participants, such as Jamie and Jenny, echo this experience. Jamie struggles with depression, anxiety, and trauma in addition to her ADHD diagnosis, while Jenny, who has not been diagnosed with ADHD, also has challenges with her mental health and has been diagnosed with depression, bipolar disorder and anxiety. Jenny mentions that her symptoms of ADHD have

been put on the backburner by her mental health providers as managing her depression and bipolar disorder have been a more pressing concern. Nonetheless, Jenny, a recent graduate of a doctoral program, shares that she still struggles with symptoms consistent with ADHD even though she takes medication for depression that is supposed to mitigate ADHD symptoms.

Secrecy

While all the study participants, diagnosed and undiagnosed, have utilized mental health services to seek help with their symptoms, many have done so in secret. They were certain to not share with their families what they were experiencing and how they were treating their challenges in adulthood. John, who has seen mental health care providers both for personal life struggles and symptoms of ADHD said, “heck no” when asked if he told his family that he sought professional help. He said that they would not understand, and that his sister, who often makes jokes about mental illness, would be especially negative. And Joel, who had behavioral challenges throughout elementary school mentions that he does not participate in much sharing with his family concerning his mental health.

When Jamie was asked about her mental health support system, and how much of her disorder she had shared with her parents, she strongly asserts, “I haven’t told them a single thing about my mental health!” When asked if her parents were aware of her having seen a professional for her symptomatic challenges with ADHD she said, “They know I do. They see it because I’m on their insurance and they see the invoice at the end of the year. They’re like, oh, you’re seeing a psychotherapist? So, they just brought it up like, oh, you’re going to therapy? And then I’m like yup. And then that’s it.” Jamie maintains that it has become important for her to be an advocate for her own mental health, and that treating mental health with silence, as her parents have, is not conducive to the quality of life that she wants to live.

Research Question 4: What are African American adults' anxieties or opinions surrounding the use of drug therapy to treat ADHD?

Five of the participants were diagnosed with ADHD. Charles was diagnosed with ADHD at the age of three, and the four remaining participants were diagnosed with ADHD in college. The participants who were diagnosed with ADHD were prescribed drug therapy to treat symptoms. And all the participants, except for Charles who stopped taking medication for ADHD in third grade, continue to utilize drug therapy. The participants who have been diagnosed with ADHD had mixed attitudes towards the use of drug therapy to treat symptoms, but maintained that they continue to use medication, because it has improved their lives. Sara describes her mom as not trusting of psychiatric medications, voicing concerns that people in her life have become dependent on prescription drugs. Nonetheless, Sara shares: "Being on the Adderall [a common drug therapy used to treat ADHD] definitely helps me actually focus and learn while in class instead of trying to cram all the information from a semester into my head before finals. Um, so it's definitely been an improvement, especially compared to freshman year where I was just a mess."

Regret and Lack of Knowledge

Many of the diagnosed participants expressed a sense of regret for not having identified and managed their symptoms earlier. Some even suggest that if they were aware of their condition earlier, they might have explored other options outside of drug therapy to improve their quality of life. Jamie notes that she has seen an improvement with Adderall. When asked to describe how it helps her, Jamie summarizes her experience as slowly feeling as though she could "sit down and read something and retain information or stop speaking and being impulsive

and making dumb decisions.” While Jamie credits Adderall for improving her quality of life, she still seems uneasy about the use of drug therapy to treat symptoms:

If I can have a positive experience with that [behavioral therapy] and reap the benefits of behavioral therapy instead of drug therapy, then yes [she would choose behavioral therapy]. But unfortunately, that hasn't been the case for me and drug therapy is almost like immediate.

Jamie expressed feeling that her symptoms were diagnosed at a later stage – at a time when behavioral therapy would no longer be helpful to her. Like Jamie, Patrick, who always knew himself to have difficulties with concentration and attention and is prescribed medication, conveys a sense of regret around not being able to identify and manage his symptoms earlier. When he discussed being at a place where he was ready to seek professional care, he had conflicting feelings:

I think I was at a point where I was ready to talk to someone. It wasn't anxiety. Well I did feel something but it wasn't anxiety. It was more just, it was more of regret and ignorance. You know, I didn't understand myself. I didn't know what was going on and I just, I, because of that, um, again, part of me just felt that maybe this is some kind of phase, you know? And I just kind of beat myself up for not seeing it earlier. But I wasn't nervous. I wasn't anxious. Yeah. In fact, I was happy to see someone about it. I think that if I had more time, or if I had addressed the issue before and had the time to evolve and really find out what works for me and understand what the things I need to do to live a quote unquote normal life – life where I can deal with this issue and still, you know, um still live up to my potential. Yeah. I feel like if these issues would have been addressed earlier than now, I would not have the same problem now. Maybe the whole depression

thing wouldn't have happened in the first place. Maybe it would have just been ADHD and then once I learned to manage that, then that would have been it.

Jessica, whose brother was diagnosed with ADHD before the age of five, also expressed a similar feeling around regret of not having communicated her symptoms at a younger age. Initially she had concerns with taking the medication she was prescribed by her doctor. Jessica first saw a professional concerning her symptoms in college. It was suggested at that time that she begin taking Adderall. She recalls only filling the prescription once because of her anxiety around what drug therapy would mean for the sports scholarship that was paying for her to attend college:

I got it [Adderall prescription refill] once because of a few things: I was worried because my bottle on my medicine says amphetamine salts and I was a college athlete and I was worried about what that would look like because my trainers have all of my medication records and at the time I wasn't super knowledgeable about the diagnosis and the fact that it would be okay and cleared. I didn't know all that. I just knew that they would know that I take amphetamines. I was just embarrassed.

After having worked through early internal difficulties around drug therapy, Jessica did start taking Adderall consistently. When asked if she felt the drug therapy worked for her, she began to cry, expressing that she has a “love-hate” relationship with ADHD and Adderall. She shares:

I'm taking medicine so that I can focus through my day and try to navigate life. I don't want to take it. I want to just come down here and study for boards [Nursing exams] like normal. On one hand, it's like I believe I have this issue right now. On the other hand, it's like, I wish I knew I had it earlier because there are behavioral things that you can do to

treat it, but I'm too far in life with too many things that I don't have time to try to stop taking medicine and just see what happens.

Alternative Management of Symptoms in Adulthood

The participants who have not been diagnosed with ADHD, yet experienced adolescent symptoms of ADHD that they continue to report as difficulties, use alternative methods to manage their symptoms. Krista, who joined the military after graduating high school was referred by her command to see the military mental health specialist as she was having a difficult time adjusting and she felt her symptoms were still interfering with her ability to maintain a sense of normalcy in her life. While she was never diagnosed with ADHD, she recalls the military being very pro-drug therapy in treating mental health challenge:

They were like, 'Here, take some medications. It will help you out with your anxiety'.

But I'm like, I really don't want to take medications because I don't want to become addicted to it or, you know, be so dependent on it. I'd rather, you know, use talk therapy and talk it out. Like, you know, ways to therapeutically manage what I'm going through as opposed to just self-medicating.

And John, whose trusted graduate advisor encouraged him to seek care for his symptoms, chose not to continue with testing for ADHD upon seeing a psychologist as he did not have the funds to pay for the exam. Both John and Krista have taken a holistic approach to managing their symptoms. John mentions using online tools to help with concentration and attention and to teach him to modify his behaviors. Jenny, who has symptoms of ADHD that are comorbid with other mental health conditions, has taken a spiritual approach:

“I used church for a bit, like I would have my own notebook, take all these notes and kind of like just work on focusing and doing that kind of stuff. So, church was one of my main things, but just also just working really hard within myself.”

It seems that for participants who have not been diagnosed with the disorder, symptoms remain a challenge in their every-day life. While medication might not be the answer for them, they are adamant in finding other avenues to manage their symptoms

DISSCUSSION CHAPTER 7

The purpose of this study was to explore the experiences of Black adults who expressed first symptoms of ADHD in adolescence. The patterned experiences of a cohort of Black adults having had adolescent symptoms has not been explored in depth and Black adult's relationship with mental health care as it relates to adolescent symptoms of ADHD is sparse. This study sought to explore the management of Black adults' adolescent symptoms of ADHD. This project was additionally focused on the ways in which race or racism might shape the management of symptoms. These goals are important not only in answering the research questions offered by this study, but in addressing gaps in the current literature that do not seem to include the narrative of Black adults who experienced adolescent symptoms of ADHD – how they remember their symptoms being managed and how adolescent management of symptoms may or may not have impacted the way in which they practice management of symptoms in adulthood.

The techniques parents, teachers, school systems and healthcare providers utilize to manage Black children's symptoms is important in helping us to understand how a structural system of race in America impacts the care of Black children, and to begin to understand how we can effectively and consciously meet the needs of Black children so that they might have access to the same opportunities of upward mobility as white children. To study the patterned experiences of Black children and Black adults, this project was framed by a theory of structural racism. The overarching tenets of the theory argue that the structure of society is rooted in an unequal distribution of power based on race and that this structure is responsible for the structural positionality of Black people relative to white people. What follows discusses the ways in which structural racism is embedded into Black people's experience of symptom management.

Discussion of Findings

The quantitative findings of this study revealed similarities to previous literature and complimented the qualitative component of this project. The findings for H1: Black and white respondents have similar symptoms reflective of ADHD, suggest that Black and white adolescents, regardless of race, experience similar frequency in challenges with concentration and attention such as often making careless mistakes, putting off things that require attention and leaving responsibilities such as chores and homework undone. Interestingly, Black respondents reported a higher frequency in restlessness and impatience, which includes challenges such as having trouble playing quietly, excessive fidgeting and squirming, and feeling restless. This finding is not necessarily mentioned in previous literature. Both findings from H1 are interesting, given the remaining results.

H2 postulates that the parents white adolescents are more likely than the parents of Black adolescents to be encouraged to and receive professional treatment concerning common symptoms of ADHD expressed by their child. Given the results of H1 we might expect to see differences by race for restlessness and impatience regarding parents ever being told by a teacher or other adult that their child has problems with restlessness or impatience. That is, if there were no differences by race in receipt of care for reported symptom frequency, we would expect that because Black adolescents report a higher frequency of experiencing restlessness and impatience, their parents would have a higher odd of being notified about behavior relative to parents of white adolescents. The findings of H2 suggest different; that in fact white adolescents with problems with restlessness and impatience have a higher odd of their parents being notified of their behavior and receiving professional treatment for such problems. Similarly, while H1 showed no difference between Black and white adolescents' frequency in challenges with concentration and attention, the parents of white adolescents had a higher odd of being

encouraged by a teacher or other adult to seek professional help and a higher odd of receiving professional treatment and being prescribed medication for their child's problems with concentration and attention. It is interesting to consider how Black people recall symptoms showing up in their adolescent lives and the ways in which those symptoms were managed at school and in the social world.

The qualitative results of this project offer depth here. Of interest are participants' feelings of being pointed out in class for behavioral concerns more often than their white peers. Participants felt as though they physically stood out relative to their white classmates because of their race and were called out more often for behavioral problems even if there were other (white) individuals in class behaving in a manner the teacher deemed unacceptable. This poses questions about whether teacher's respond to Black children's behavior differently than white children's behavior.

Literature explains that Black children who have symptoms of ADHD are often criminalized for their behavior – either by being disciplined administratively, removed from the classroom, given detention, being placed in a special class for children with disruptive behavior or following the school-to-prison pipeline – which white children who display the same symptoms are medicalized (Ramey 2014; Ramey 2018). Nine of the ten participants relayed that their behavioral symptoms at school were never described to their parents as symptoms of ADHD or needing professional evaluation. The medicalization, criminalization and race literature would offer that deviant white children who display symptoms of ADHD are managed through a biomedical model with behavioral symptoms being viewed as a health challenge that is out of their control and requires evaluation by a medical care provider. These same symptoms do not seem to be medicalized when displayed by Black children. Instead, they are viewed as

intentionally deviant bad behavior that does not call for medical evaluation, but some form of discipline. The medicalization of deviance sees *badness* as an illness, making deviance an illness rather than a moral status. These benefits of medicalizing bad behavior are not afforded to Black people in evaluating their adolescent symptoms of ADHD. Given this we must ask, “Who is deviant and who has the power to determine labels of illness and badness?”

Such a question can be answered by considering how social control operates within the context of structural racism. Social control maintains the interest of a privileged, perceivably “white” people. All other non-white persons become categorized as the “other.” As Heitzeg (2011) points out, these “others” are subject to labeling and social control relative to their social status (of non-white). It is necessary to point out that the medicalization of deviance applies to the individual and does not necessarily consider the social structure in which symptoms are identified and managed. Black children’s symptoms are presumably approached within the context of a larger structural system of social control which decides whether their symptoms are worthy of being medicalized and managed as a mental health condition. It seems that for this qualitative sample of participants – in which five individuals were eventually diagnosed with ADHD in adulthood and two with comorbid conditions – rather than teachers and school systems viewing Black student’s deviant behavior through the biomedical model used to interpret white children’s deviant behavior, they were viewed through a lens that simply reflected self-determined poor behavior. Thus, participants seem to be encouraged to seek professional treatment and receive professional care for symptoms of ADHD less often than their white peers because their behavior was not interpreted as a medical disorder requiring attention. This is due in large part to a structural system of racism that protects the interest of white persons, ensuring that they are shielded from their symptoms being treated as decidedly bad or even criminal. The

privilege of whiteness in the context of structural racism affords white persons to label and medicalize their own deviance as illness.

In addition to schools and school teachers varying in their interpretation of symptoms, there is evidence that parents of Black children also interpret symptoms as non-medical (Kendall 2002; Mychailyszyn 2008). But, their interpretation and management of symptoms is complicated and does not necessarily adopt a frame of medicalization, largely because their children do not seem to benefit from the medicalization of deviant behavior in the same way as their white peers do. Similar to previous research, interviews suggest parents of Black children are reluctant to buy into ADHD (Bradley 2002). Much of parent's time is dedicated to ensuring their child's behavior is acceptable as a matter of life success. While talking too loud in class and an inability to concentrate during study hours might be where a white child's symptoms are most impactful, the parents of Black children are more occupied by how Black children's behavior might block them from gaining access to the same opportunities as their white peers.

By and large, interview participants expressed that their parents played a large role in developing a framework for what was considered good and bad behavior. Many of the participants spoke at length about the importance of being taught to code-switch in their youth and the non-verbal cues their parents used to teach them "good-behavior." It is important to note that the participants who discussed teachings of code-switching discussed their experiences in relation to white peers. Particularly, that "good behavior" was behavior relative to white persons; that whiteness was the benchmark for acceptable behavior. Code-switching seemed to be a technique parents used to assimilate their children into white spaces and offer them the best opportunity for life success. Here we find a space to think about the ways in which code-switching is tied into structural racism and the management of behavioral symptoms of ADHD.

Code-switching is both a linguistic and behavioral process of evaluating a situation and presenting oneself in a manner that would be deemed appropriate for the setting. This often means a shift in dialect, an adjustment in clothing, taming of behavior or a modification in body language. While all people might find themselves in scenarios where they use code-switching as a tactic to assimilate to their environment, there are facets of the technique that are particular to Black people. For Black people, code-switching is often used as a tool to gain access into social institutions that are not built for them. Because these social institutions were historically developed by and for white people, entering predominately white spaces requires substantial behavioral adjustments on the part of Black persons in order to be accepted and therefore given access to upward mobility. Code-switching operates within the context of Feagin's *white racial frame* (2006) and works tirelessly to navigate racialized stereotypes and assumptions constructed about people of color which lend to their inability to access the same social and economic freedoms as their white peers. While none of the interview participants directly related parental lessons of code-switching to the management of their symptoms, it became clear that the expression of their symptoms were intimately tied to their parents need to align their behavior with white peers as to not allow their child to stand out in a manner that might be detrimental to their future.

Code-switching lays the groundwork for helping us to understand the context in which parents of the participants responded to and managed their symptoms. Black parent's strivings towards wanting their children to reap the same institutional benefits of the school system as their white peers was clear. As previous literature suggests (Bradley 2002), the pathway to reaching such reception was marked with physical disciplinary tactics. Symptomatic behavior seemed to be overlooked and treated as merely bad behavior that needed correcting.

The techniques Black parents utilized to manage behavior reflective of symptoms of ADHD were consistent with the literature. It seems that both the treatment of symptoms as simply behavioral and the management of symptoms with discipline is common for the experience of symptomatic Black children. Findings of the current research suggest that participant's parents did not necessarily feel that their behavioral challenges should be met with medical care. Many of the participant's parents treated behavioral symptoms as deliberate. They therefore met deliberate behavior with disciplinary action.

In addition to discipline, previous literature suggests that Black parents with ADHD-diagnosed adolescents focus on redirecting their child's attention towards beneficial activity while white parents focus on self-reflective and preventative approaches (Bussing 2006). Though the participants could not necessarily identify the redirection of attention as a method used post-diagnosis, participants relayed that one of the symptom management techniques their parents utilized was committing them to structured time outside of the classroom. For many of the participants this meant completing weekly chores, being involved in sports, and taking part in out-of-class activities. One of the participants even explained his mother's approach to structured time as "militaristic" – planning every hour of his day outside of class, redirecting his energy and creating a space that was focused and did not allow for much deviation.

The implementation of *structured time* likens itself to Lareau's (2002) conversation of *concerted cultivation*. *Concerted cultivation* is a technique middle-class parents across races engage with in child development. Within this model parents take an active role in fostering their child's talents, organizing leisure activities, developing their confidence, encouraging ideas, training the child to intervene on their own behalf and to use reasoning with adults (Lareau 2002). Given all the participants were raised in middle class homes with active parents, one

could suggest that this method of implementing *structured time* provided a kind of protective layer from participants' symptoms being interpreted as criminal. And while H4 demonstrates that Black children are enrolled in special education classes for behavioral problems more often than white children, the parental management style of this sample of middle-class participants might have created a protective shield against being placed into special classes for bad behavior. The practicing of *concerted cultivation* by the mostly middle class parents mentioned in the interviews seems to have written a sort of resilience narrative into their symptom management. One might also speculate that this particular sample of interview participants were protected from necessarily being criminalized or placed in special classes for their behavior because they were largely high achievers who made excellent grades. Yet, we should note that neither their high achievement nor their parent's engagement with *concerted cultivation* protected them from symptoms being interpreted as bad behavior rather than needing professional evaluation.

Nonetheless, *concerted cultivation* might have still benefited this sample relative to their low-income Black peers as it helped to develop a sense of independence and confidence. This might explain participant's resilience in the higher education setting. While management of symptoms of participants were not necessarily handled with a biomedical approach in their childhood, participants discussed at length their commitment to professionally managing their symptoms in adulthood. This is in stark difference to how parents and teachers managed their symptoms.

All of the participants of this study have at some point sought professional care in adulthood to manage their symptoms. It is necessary to point out that participants had triggers to seeking care. These triggers occurred often upon arriving to college, having to structure their personal, social and academic lives in a manner that was conducive to their success. Seven

individuals voiced becoming overwhelmed with their lives to the extent that their symptoms became debilitating and they were unable to perform well academically. Five participants offered that their inability to manage was conflated with comorbid symptoms of other conditions such as depression, anxiety and bipolar disorder that had not yet been diagnosed. Ultimately, their catalyst for seeking care was poor performance due to symptom (mis)management.

While symptoms posed identifiable challenges, participants expressed the need for secrecy around their seeking of professional care to aid in symptom management and their use of drug therapy to help mitigate symptoms. Some participants offered that because their parents, and the Black community at large have negative views towards mental health, they felt it best to keep their symptoms and their choice to seek care to themselves. Participants mentioned labeling and religion as playing important roles in their childhood relationship to seeking mental health care. Eight of the ten participants offered that growing up, family members who experienced mental health challenges were often referred to as “crazy” or outside of the norm. The parents of study participants expressed wanting to protect their children from these labels for fear of how they might shape their future. Many of the participants voiced that their parent’s management style of mental health conditions incorporated religion and prayer. Mental health conditions were viewed as “the devil,” and could simply be prayed away. Much of the literature has described the lack of interaction between the Black community and the mental health care system as growing simply out of cultural differences (Bussing 2006; Moody 2017; Olaniyan 2007).

Here, I would like to offer that Black people’s historical purview of mental health care is rooted in structural racism; that the lived experience of being Black in a racially hostile America shapes Black people’s approach to seeking mental health care. Particularly that Black people do not have the power to lay claim to which labels are placed upon them and the ways such labels

are interpreted. Any deviation to behaving outside of the norm (i.e. whiteness) poses a threat to their strivings towards upward mobility. One of the central points here is the role of the “white racial frame in constructing storylines for white deviance, while simultaneously constructing a narrative that condemns Blackness.” (Heitzeg 2015, 198). Heitzeg (2015) offers that the white racial frame shapes the labels attached to white behavior and the social systems needed to address such behaviors. Thus, the lack of Black people’s interaction with the mental health system is shaped by the hierarchal structure of race in America and the fear of labels being placed upon them that are detrimental to their already low positionality in the social system. Black parents are tasked with the chore of pressing back against a white racial frame that would cast the treatment and labeling of their child’s symptomatic behavior in a manner that is unbecoming to their overall life success. And as one participant offers, this must impact the relationship between Black people and mental health care as well as the identification, referral and treatment of symptomatic behavior for professional evaluation.

Limitations

Quantitative Limitations

One of the limitations of the quantitative component of this study is the conflation of ADHD and ADD. While this project is interested in Black experiences of ADHD, it should be mentioned that ADD is very similar to ADHD. While ADHD includes symptoms of hyperactivity and excessive restlessness, the symptoms of ADD can be calmer and not necessarily appear as hyperactive. The differences between ADHD and ADD are blurry. The NCS-A and PSA-Q ask respondents questions around the condition of ADD – yet, the questions probe about the child’s level of restlessness, hyperactivity, concentration and attention, which are all symptoms associated with ADHD.

In addition, questions from the NCS-A and PSA-Q do not necessarily ask questions of children and parents of children who have symptoms that are specifically reflective of ADHD. For example, the item addressing hypothesis 3 asks if the responding parents child has ever been prescribed medication for challenges with concentration/attention. While concentration and attention are both central symptoms of ADHD, they could also be comorbid with other conditions such as Oppositional Defiance Disorder. To address this, mental health conditions that have been identified in the literature as comorbid with ADHD were included in all logistic regression models (Cuffe 2015). This included General Anxiety Disorder, Oppositional Defiance Disorder, Conduct Disorder and the range of Bipolar Disorders.

A third limitation is that the NCS-A screening questions for H1 require that a person remember details of their lives when they were 7 years old. Because of that, there are certainly errors in the data, and perhaps bias, due to challenges with. A final limitation is that the NCS-A and PSA-Q asks questions about symptoms that began before the age of 7. The DSM-IV instructs that to be diagnosed with ADHD, one must demonstrate symptoms that occur beginning before age 12 (DSM-V 2013). Results might have been different had respondents of the NCS-A and PSA-Q been asked about symptoms beginning before age 12 as opposed to age 7.

Qualitative Limitations

One of the limitations of the qualitative sample is that it is not nationally representative. Utilizing a nationally representative sample for in-depth qualitative interviews was not feasible for this study largely due to the constrained budget and time allotted to the project. This sample is also not representative of the larger population of Black adults who might have experienced adolescent symptoms of ADHD. The participants were either undergraduates, graduates, or recent college graduates. This fact should be recognized in the interpretation of results given that

many Black children who have experienced adolescent symptoms of ADHD might have different outcomes that did not result in college attendance. Lacking participants with a larger range of educational attainment limited the results and discussion to individuals who have attained or are in the process of obtaining a post-high school degree. This has the potential to miss important comparisons between highly educated participants who are in the sample and lower-educated individuals who are not in the sample.

Another potential concern is recall of events. While the participants expressed clear memories of their childhood, there are likely important factors that were left out in their interview because either they did not remember or there was information about their behavior that only their parents were privy to – information that was not shared with the participant. Given adults who experienced adolescent symptoms were interviewed, it is also impossible to fully understand why their symptoms were managed in any particular way by their parents, teachers and schools.

Implications for Future Research

This project adds value to the literature that discusses racial/ethnic disparities in diagnosis and treatment of ADHD, health care service utilization, health behaviors, help seeking and medicalization. This research confirms and further expands on what we already know – that Black children’s symptoms are not managed the same way as white children’s symptoms. And that Black children are disciplined for the same behaviors white children are professionally evaluated for. This was demonstrated quantitatively – by differences in race regarding white children having a higher odd of being encouraged to see a professional, seeing a professional, and getting prescribed medication for their symptoms. This was also demonstrated qualitatively by the interviewees who detailed the management style of their symptoms at school relative to

their white peers. This research also offered new findings that gave details about how Black people experience symptom management in their adolescent years, how management techniques might have hurt or helped them in the long term and the willingness of young Black adults to have their symptoms evaluated by a mental health professional– a departure from the historically stigmatized relationship between Black people and mental health care.

Future research should investigate the methods parents and schools are using currently to manage symptoms. Given that the sample of participants were warmer towards mental health care and have different views around ADHD symptom management than their parents, it would be helpful to know if Black children of today have similar or different symptom experiences as compared to Black children in the early 2000s (at the time the NCS-A and PSA-Q were administered).

This project also has implications for the study of adult ADHD. The literature is sparse in discussing Black adults coming to terms with symptoms and choosing a management avenue that is applicable for their lifestyle. For the sample of participants in this study, mental health care made a significant impact in their mental health outcomes, academic success, social life and personal life. None of the participants expressed regret at having visited with a mental health professional. In fact, many suggested that they wish they had contacted a professional much earlier in life. Their lack of early contact with the mental health system seems to be a result of the ways in which race and racism are written into symptom management. Future work should parse out how race might be written into adult ADHD as well as young Black adults' decisions to seek mental health care.

References

- Addo, F. R., Houle, J. N., & Simon, D. (2016). Young, black, and (still) in the red: Parental wealth, race, and student loan debt. *Race and Social Problems*, 8(1), 64-76.
- ATTENTION-DEFICIT, S. O. (2011). ADHD: clinical practice guideline for the diagnosis, evaluation, and treatment of attention-deficit/hyperactivity disorder in children and adolescents. *Pediatrics*, peds-2011.
- Anderson, R. J. (2011). *Dynamics of economic well-being: Poverty, 2004-2006*. US Department of Commerce, Economics and Statistics Administration, US Census Bureau.
- Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: does it matter?. *Journal of health and social behavior*, 1-10.
- Armstrong, K., Ravenell, K. L., McMurphy, S., & Putt, M. (2007). Racial/ethnic differences in physician distrust in the United States. *American journal of public health*, 97(7), 1283-1289.
- Arnett, A. B., Pennington, B. F., Willcutt, E. G., DeFries, J. C., & Olson, R. K. (2015). Sex differences in ADHD symptom severity. *Journal of Child Psychology and Psychiatry*, 56(6), 632-639.
- Bailey, R. K., & Owens, D. L. (2005). Overcoming challenges in the diagnosis and treatment of attention-deficit/hyperactivity disorder in African Americans. *Journal of the National Medical Association*, 97(10 Suppl), 5S.
- Barkley, R. A. (Ed.). (2014). *Attention-deficit hyperactivity disorder: A handbook for diagnosis and treatment*. Guilford Publications.
- Barksdale, C. L., & Molock, S. D. (2009). Perceived norms and mental health help seeking among African American college students. *The journal of behavioral health services & research*, 36(3), 285.
- Bernabei, R., Gambassi, G., Lapane, K., Landi, F., Gatsonis, C., Dunlop, R., et al. (1998). Management of pain in elderly patients with cancer. *JAMA*, 227(23), 1877-1882.
- Biederman, J., Mick, E., Faraone, S. V., Braaten, E., Doyle, A., Spencer, T., ... & Johnson, M. A. (2002). Influence of gender on attention deficit hyperactivity disorder in children referred to a psychiatric clinic. *American Journal of psychiatry*, 159(1), 36-42.
- Blanchett, W. J. (2006). Disproportionate representation of African American students in special education: Acknowledging the role of white privilege and racism. *Educational Researcher*, 35(6), 24-28.
- Bonilla-Silva, E. (1997). Rethinking racism: Toward a structural interpretation. *American sociological review*, 465-480.

- Boulware, L. E., Jaar, B. G., Tarver-Carr, M. E., Brancati, F. L., & Powe, N. R. (2003). Screening for proteinuria in US adults: a cost-effectiveness analysis. *Jama*, *290*(23), 3101-3114.
- Bussing, R., Gary, F. A., Mills, T. L., & Garvan, C. W. (2007). Cultural variations in parental health beliefs, knowledge, and information sources related to attention-deficit/hyperactivity disorder. *Journal of Family Issues*, *28*(3), 291-318.
- Bussing, R., Koro-Ljungberg, M. E., Williamson, P., Gary, F. A., & Garvan, C. W. (2006). What "Dr. Mom" ordered: A community-based exploratory study of parental self-care responses to children's ADHD symptoms. *Social science & medicine*, *63*(4), 871-882.
- Bussing, R., Koro-Ljungberg, M. E., Gary, F., Mason, D. M., & Garvan, C. W. (2005). Exploring help-seeking for ADHD symptoms: a mixed-methods approach. *Harvard review of psychiatry*, *13*(2), 85-101.
- Bussing, R., Zima, B. T., Mason, D., Hou, W., Garvan, C. W., & Forness, S. (2005). Use and persistence of pharmacotherapy for elementary school students with attention-deficit/hyperactivity disorder. *Journal of Child & Adolescent Psychopharmacology*, *15*(1), 78-87.
- Bussing, R., Schoenberg, N. E., & Perwien, A. R. (1998). Knowledge and information about ADHD: Evidence of cultural differences among African-American and White parents. *Social Science and Medicine*, *46*, 919-928.
- Bussing, R., Zima, B. T., Gary, F. A., & Garvan, C. W. (2003). Barriers to detection, help-seeking, and service use for children with ADHD symptoms. *The Journal of Behavioral Health Services and Research*, *30*(2), 176-189.
- Bussing, R., Gary, F. A., Mills, T. L., & Garvan, C. W. (2003). Parental explanatory models of ADHD gender and cultural variations. *Social Psychiatry and Psychiatric Epidemiology*, *38*, 563-575.
- Bussing, R., Zima, B. T., Gary, F. A., Mason, D. M., Leon, C. E., Sinha, K. et al. (2003). Social networks, caregiver strain, and utilization of mental health services among elementary school students at high risk for ADHD. *Journal of the American Academy of Child and Adolescent Psychiatry*, *42*, 842-850.
- Brandt, Allan. (1978). Racism and research: The case of the Tuskegee Syphilis study. *The Hastings Center Report*, *8*(6): 21-29
- Brondolo, E., Gallo, L. C., & Myers, H. F. (2009). Race, racism and health: disparities, mechanisms, and interventions. *Journal of behavioral medicine*, *32*(1), 1.
- Breeden, J. O. (1975). Body snatchers and anatomy professors: Medical education in nineteenth-century Virginia. *The Virginia Magazine of History and Biography*, *83*(3), 321-345.

Bruchmüller, K., Margraf, J., & Schneider, S. (2012). Is ADHD diagnosed in accord with diagnostic criteria? Overdiagnosis and influence of client gender on diagnosis. *Journal of consulting and clinical psychology, 80*(1), 128.

Bussing R, Zima BT, Belin TR: Mental health service use for ADHD across multiple sectors. Presented at the 44th annual meeting of the American Academy of Child and Adolescent Psychiatry, Toronto, Oct 14–19, 1997

Bussing R, Schoenberg NE, Perwien AR: Knowledge and information about ADHD: evidence of cultural differences among African-American and white parents. *Social Science and Medicine 46*:919–928, 1998

Bussing, R., Zima, B. T., Mason, D., Hou, W., Garvan, C. W., & Forness, S. (2005). Use and persistence of pharmacotherapy for elementary school students with attention-deficit/hyperactivity disorder. *Journal of Child & Adolescent Psychopharmacology, 15*(1), 78-87.

Butz, A., Lipkin, P. H., Anixt, J. S., Weiner, C. L., & Chernoff, R. (2006). Attitudes about stimulant medication for attention-deficit/hyperactivity disorder among African American families in an inner city community. *The journal of behavioral health services & research, 33*(4), 423-430.

Carmichael, J. (2014) “Social Control,” *Sociology*, Oxford Bibliographies. www.oxfordbibliographies.com/view/document/obo-9780199756384/obo-9780199756384-0048.xml.

Cartwright, S. (1851). *Diseases and Peculiarities of the Negro Race: Africans in America*.

Center for Disease Control (2017). Retrieved from <https://www.cdc.gov/ncbddd/adhd/index.html>

Center for Behavioral Health Statistics and Quality. (2015). Behavioral health trends in the United States: Results from the 2014 National Survey on Drug Use and Health (*HHS Publication No. SMA 15-4927, NSDUH Series H-50*). Retrieved from <http://www.samhsa.gov/data/>

Charach, A., Skyba, A., Cook, L., & Antle, B. J. (2006). Using stimulant medication for children with ADHD: What do parents say? A brief report. *Journal of the Canadian Academy of Child and Adolescent Psychiatry, 15*(2), 75.

Cleeland, C.S., Gonin, R., Hatfield, A.K., Edmonson, J.H., Blum, R.H., Stewart, J.A., et al. (1994). Pain and its treatment in outpatients with metastatic cancer. *New Journal England of Medicine, 330*(9), 592–96.

Coker, T. R., Elliott, M. N., Toomey, S. L., Schwebel, D. C., Cuccaro, P., Emery, S. T., ... & Schuster, M. A. (2016). Racial and ethnic disparities in ADHD diagnosis and treatment. *Pediatrics, e20160407*.

- Conley, D. (2010). *Being black, living in the red: Race, wealth, and social policy in America*. Univ of California Press.
- Conrad, P. (2007). *The medicalization of society*. Baltimore, MD: Johns Hopkins University Press.
- Conrad, P. (2010). *Deviance and medicalization: From badness to sickness*. Temple University Press.
- Conrad, P., & Potter, D. (2000). From hyperactive children to ADHD adults: Observations on the expansion of medical categories. *Social Problems*, 47(4), 559-582.
- Cook, B. L., Trinh, N. H., Li, Z., Hou, S. S. Y., & Progovac, A. M. (2016). Trends in racial-ethnic disparities in access to mental health care, 2004–2012. *Psychiatric Services*, 68(1), 9-16.
- Corbie-Smith, G., Thomas, S. B., & George, D. M. M. S. (2002). Distrust, race, and research. *Archives of internal medicine*, 162(21), 2458-2463.
- Costello, E. J., He, J. P., Sampson, N. A., Kessler, R. C., & Merikangas, K. R. (2014). Services for adolescents with psychiatric disorders: 12-month data from the National Comorbidity Survey–Adolescent. *Psychiatric Services*, 65(3), 359-366.
- Crawley, L. M., Ahn, D. K., & Winkleby, M. A. (2008). Perceived medical discrimination and cancer screening behaviors of racial and ethnic minority adults. *Cancer Epidemiology and Prevention Biomarkers*, 17(8), 1937-1944.
- Cuffe, S. P., Visser, S. N., Holbrook, J. R., Danielson, M. L., Geryk, L. L., Wolraich, M. L., & McKeown, R. E. (2015). ADHD and psychiatric comorbidity: Functional outcomes in a school-based sample of children. *Journal of attention disorders*, 1087054715613437.
- Cummings, J. R., Ji, X., Allen, L., Lally, C., & Druss, B. G. (2017). Racial and ethnic differences in ADHD treatment quality among Medicaid-enrolled youth. *Pediatrics*, 139(6), e20162444.
- Cunningham, P. J., & Freiman, M. P. (1996). Determinants of ambulatory mental health services use for school-age children and adolescents. *Health services research*, 31(4), 409.
- Davison, J. C., & Ford, D. Y. (2001). Perceptions of attention deficit hyperactivity disorder in one African American community. *Journal of Negro education*, 264-274.
- Davidson, J. M. (2007). “Resurrection Men” in Dallas: The Illegal Use of Black Bodies as Medical Cadavers (1900–1907). *International Journal of Historical Archaeology*, 11(3), 193-220.
- Derks, E. M., Hudziak, J. J., & Boomsma, D. I. (2007). Why more boys than girls with ADHD receive treatment: a study of Dutch twins. *Twin Research and Human Genetics*, 10(5), 765-770.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5®)*. American Psychiatric Pub.

Diala, C., Muntaner, C., Walrath, C., Nickerson, K. J., LaVeist, T. A., & Leaf, P. J. (2000). Racial differences in attitudes toward professional mental health care and in the use of services. *American Journal of Orthopsychiatry*, 70(4), 455.

Diala, C. C., Muntaner, C., Walrath, C., Nickerson, K., LaVeist, T., & Leaf, P. (2001). Racial/ethnic differences in attitudes toward seeking professional mental health services. *American Journal of Public Health*, 91(5), 805.

Dimick, J., Ruhter, J., Sarrazin, M. V., & Birkmeyer, J. D. (2013). Black patients more likely than whites to undergo surgery at low-quality hospitals in segregated regions. *Health Affairs*, 32(6), 1046-1053.

Dosreis, S., Zito, J. M., Safer, D. J., Soeken, K. L., Mitchell Jr, J. W., & Ellwood, L. C. (2003). Parental perceptions and satisfaction with stimulant medication for attention-deficit hyperactivity disorder. *Journal of Developmental & Behavioral Pediatrics*, 24(3), 155-162.

Durkheim, E. (1912). *The elementary forms of the religious life [1912]*. na.

Eiraldi, R. B., Mazzuca, L. B., Clarke, A. T., & Power, T. J. (2006). Service utilization among ethnic minority children with ADHD: A model of help-seeking behavior. *Administration and Policy in Mental Health and Mental Health Services Research*, 33(5), 607-622.

Farmer EMZ, Stangl DK, Burns BJ, et al. (1999). Use, persistence, and intensity: patterns of care for children's mental health across one year. *Community Mental Health Journal* 35:31-46.

Feagin, Joe. 2006. *Systemic Racism: A Theory of Oppression*. New York: Routledge

Feagin, J., & Bennefield, Z. (2014). Systemic racism and US health care. *Social science & medicine*, 103, 7-14.

Feagin, J. (2013). *Systemic racism: A theory of oppression*. Routledge.

Fox, R. C. (2000). Medical uncertainty revisited. *Handbook of social studies in health and medicine*, 409-425.

Francis, J. J., Johnston, M., Robertson, C., Glidewell, L., Entwistle, V., Eccles, M. P., & Grimshaw, J. M. (2010). What is an adequate sample size? Operationalising data saturation for theory-based interview studies. *Psychology and Health*, 25(10), 1229-1245.

Franklin, John Hope and Alfred A. Moss. 1994. *From Slavery to Freedom: A History of African Americans*. New York: McGraw-Hill.

- Froehlich, T. E., Lanphear, B. P., Epstein, J. N., Barbaresi, W. J., Katusic, S. K., & Kahn, R. S. (2007). Prevalence, recognition, and treatment of attention-deficit/hyperactivity disorder in a national sample of US children. *Archives of pediatrics & adolescent medicine*, *161*(9), 857-864.
- Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The qualitative report*, *20*(9), 1408.
- Galvin, R. (2015). How many interviews are enough? Do qualitative interviews in building energy consumption research produce reliable knowledge?. *Journal of Building Engineering*, *1*, 2-12.
- Gamble, V. N. (1997). Under the shadow of Tuskegee: African Americans and health care. *American journal of public health*, *87*(11), 1773-1778.
- Garland, A. F., Lau, A. S., Yeh, M., McCabe, K. M., Hough, R. L., & Landsverk, J. A. (2005). Racial and ethnic differences in utilization of mental health services among high-risk youths. *American Journal of Psychiatry*, *162*(7), 1336-1343.
- Gaub, M., & Carlson, C. L. (1997). Gender differences in ADHD: a meta-analysis and critical review. *Journal of the American Academy of Child & Adolescent Psychiatry*, *36*(8), 1036-1045.
- Gee, G. C., Ro, A., Shariff-Marco, S., & Chae, D. (2009). Racial discrimination and health among Asian Americans: evidence, assessment, and directions for future research. *Epidemiologic reviews*, *31*(1), 130-151.
- Geiger, H. J. (2003). Racial and ethnic disparities in diagnosis and treatment: a review of the evidence and a consideration of causes. *Unequal treatment: Confronting racial and ethnic disparities in health care*, 417-454.
- Gius, M. P. (2007). The Impact of the Americans with Disabilities Act on Per-Student Public Education Expenditures at the State Level: 1987–2000. *American Journal of Economics and Sociology*, *66*(5), 925-936.
- Goldberg, J., Hayes, W., & Huntley, J. (2004). Understanding health disparities. *Health Policy Institute of Ohio*, *3*.
- Goldrick-Rab, S., Kelchen, R., & Houle, J. (2014). The color of student debt: Implications of federal loan program reforms for black students and historically black colleges and universities. *Madison: Wisconsin HOPE Lab*.
- Griffith, E. E., & Baker, F. M. (1993). Psychiatric care of African Americans. *Culture, ethnicity, and mental illness*, 147-173.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field methods*, *18*(1), 59-82.

Guevara, J. P., Feudtner, C., Romer, D., Power, T., Eiraldi, R., Nihtianova, S., ... & Schwarz, D. F. (2005). Fragmented care for inner-city minority children with attention-deficit/hyperactivity disorder. *Pediatrics*, *116*(4), e512-e517.

Halperin, Edward C. The Poor, the Black, and the Marginalized as Sources of Cadavers in United States Anatomical Education. *Clinical Anatomy*, *20*(5), p 489-495

Hartmann, B. (1995). *Reproductive rights and wrongs: the global politics of population control*. South End Press.

Heins, J. K., Heins, A., Grammas, M., Costello, M., Huang, K., & Mishra, S. (2006). Disparities in analgesia and opioid prescribing practices for patients with musculoskeletal pain in the emergency department. *Journal of Emergency Nursing*, *32*(3), 219-224.

Heitzeg, N. A. (2015). 'Whiteness,' criminality, and the double standards of deviance/social control. *Contemporary Justice Review*, *18*(2), 197-214.

Heitzeg, N. A. (2011). Differentials in deviance. Race, class, gender, and age. In C. Bryant (Ed.), *The Routledge handbook of deviant behavior*, 53-60.

Hibel, J., Farkas, G., & Morgan, P. L. (2010). Who is placed into special education?. *Sociology of Education*, *83*(4), 312-332.

Holler, R. A., & Zirkel, P. A. (2008). Section 504 and public schools: A national survey concerning "Section 504-only" students. *NASSP Bulletin*, *92*(1), 19-43.

Hou, S. Y., Wu, S. Y., & Chiang, C. M. (2002). Transcriptional activity among high and low risk human papillomavirus E2 proteins correlates with E2 DNA binding. *Journal of Biological Chemistry*, *277*(47), 45619-45629.

Humphrey, D.C. (1973). Dissection and discrimination: the social origins of cadavers in America, 1760-1915. *Bull N Y Acad Med* *49*, 819-827.

Hughes, J., & Kwok, O. M. (2007). Influence of student-teacher and parent-teacher relationships on lower achieving readers' engagement and achievement in the primary grades. *Journal of educational psychology*, *99*(1), 39.

Hughes, J. N., Gleason, K. A., & Zhang, D. (2005). Relationship influences on teachers' perceptions of academic competence in academically at-risk minority and majority first grade students. *Journal of school psychology*, *43*(4), 303-320.

Individuals with Disabilities Education Act. (2017). Retrieved from <http://idea.ed.gov>

Jones, James (1993). *Bad Blood: New and Expanded Edition*. Simon and Schuster.

- Kelly, D. L., Dixon, L. B., Kreyenbuhl, J. A., Medoff, D., Lehman, A. F., Love, R. C., ... & Conley, R. R. (2006). Clozapine utilization and outcomes by race in a public mental health system: 1994-2000. *The Journal of clinical psychiatry*, 67(9), 1404-1411.
- Kendall, J., Hatton, D., Beckett, A., & Leo, M. (2003). Children's Accounts of Attention-Deficit/Hyperactivity Disorder. *Advances in Nursing Science*, 26(2), 114-130.
- Kendall, J., & Hatton, D. (2002). Racism as a source of health disparity in families with children with attention deficit hyperactivity disorder. *Advances in Nursing Science*, 25(2), 22-39.
- Kenny, S. C. (2015). Power, opportunism, racism: Human experiments under American slavery. *Endeavour*, 39(1), 10-20.
- Kessler, R. C., Berglund, P. A., Zhao, S., Leaf, P. J., Kouzis, A. C., Bruce, M. L., ... & Kuehnel, T. G. (1996). The 12-month prevalence and correlates of serious mental illness (SMI). *Mental Health, United States*, 5600.
- Klingner, J., Artiles, A. J., Kozleski, E., Harry, B., Zion, S., Tate, W., et al. (2005). Addressing the disproportionate representation of culturally and linguistically diverse students in special education through culturally responsive educational systems. *Education Policy Analysis Archives*, 13(38).
- Kochman, T. (1981). *Black and white styles in conflict*. University of Chicago Press.
- Kos, J. (2008). What do primary school teachers know, think and do about ADHD?. *Teaching and learning and leadership*, 8.
- Lareau, A. (2002). Invisible inequality: Social class and childrearing in black families and white families. *American sociological review*, 67(5), 747-776.
- LaVeist, T. A., & Isaac, L. A. (Eds.). (2012). *Race, ethnicity, and health: A public health reader* (Vol. 32). John Wiley & Sons.
- LaVeist, T. A. (2003). Racial segregation and longevity among African Americans: An individual-level analysis. *Health services research*, 38(6p2), 1719-1734.
- LaVeist, T. A., Diala, C., & Jarrett, N. C. (2000). Social status and perceived discrimination: Who experiences discrimination in the health care system, how, and why. *Minority health in America*, 194-208.
- LaVeist, T. A., Nickerson, K. J., & Bowie, J. V. (2000). Attitudes about racism, medical mistrust, and satisfaction with care among African American and white cardiac patients. *Medical Care Research and Review*, 57(1_suppl), 146-161.

Leslie LK, Weckerly J, Landsverk J, et al: Racial/ethnic differences in the use of psychotropic medication in high-risk children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry* 42:1433–1442, 2003

Losen, D. J., & Orfield, G. (2002). *Racial inequity in special education*. Cambridge, MA: Harvard Education

Mandell, D. S., Davis, J. K., Bevans, K., & Guevara, J. P. (2008). Ethnic disparities in special education labeling among children with attention-deficit/hyperactivity disorder. *Journal of Emotional and Behavioral Disorders*, 16(1), 42-51.

Masi, G., Milone, A., Manfredi, A., Brovedani, P., Pisano, S., & Muratori, P. (2016). Combined pharmacotherapy-multimodal psychotherapy in children with Disruptive Behavior Disorders. *Psychiatry research*, 238, 8-13.

Mason, Jennifer. (1996). *Qualitative Researching*. Newbury Park, CA: Sage Publications.

McCabe, S. E., Morales, M., Cranford, J. A., Delva, J., McPherson, M. D., & Boyd, C. J. (2007). Race/ethnicity and gender differences in drug use and abuse among college students. *Journal of ethnicity in substance abuse*, 6(2), 75-95.

McKay MM, Pennington J, Lynn CJ, et al: Understanding urban child mental health service use: two studies of child, family, and environmental correlates. *Journal of Behavioral Health Services and Research* 28:475–483, 2001

McLeod, J. D., Fettes, D. L., Jensen, P. S., Pescosolido, B. A., & Martin, J. K. (2007). Public knowledge, beliefs, and treatment preferences concerning attention-deficit hyperactivity disorder. *Psychiatric Services*, 58(5), 626-631.

Merikangas, K. R., He, J. P., Brody, D., Fisher, P. W., Bourdon, K., & Koretz, D. S. (2010). Prevalence and treatment of mental disorders among US children in the 2001–2004 NHANES. *Pediatrics*, 125(1), 75-81.

Merikangas, K. R., He, J. P., Burstein, M., Swendsen, J., Avenevoli, S., Case, B., ... & Olsson, M. (2011). Service utilization for lifetime mental disorders in US adolescents: results of the National Comorbidity Survey–Adolescent Supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry*, 50(1), 32-45.

Moody, M. D. (2017). “Us Against Them”: Schools, Families, and the Diagnosis of ADHD Among Black Children. *Journal of racial and ethnic health disparities*, 4(5), 949-956.

Morgan, P. L., Farkas, G., Hillemeier, M. M., & Maczuga, S. (2012). Are minority children disproportionately represented in early intervention and early childhood special education?. *Educational Researcher*, 41(9), 339-351.

- Morgan, P. L., Staff, J., Hillemeier, M. M., Farkas, G., & Maczuga, S. (2013). Racial and ethnic disparities in ADHD diagnosis from kindergarten to eighth grade. *Pediatrics*, *132*(1), 85-93.
- Morgan, P. L., Hillemeier, M. M., Farkas, G., & Maczuga, S. (2014). Racial/ethnic disparities in ADHD diagnosis by kindergarten entry. *Journal of Child Psychology and Psychiatry*, *55*(8), 905-913.
- Mouton, C. P., Harris, S., Rovi, S., Solorzano, P., & Johnson, M. S. (1997). Barriers to black women's participation in cancer clinical trials. *Journal of the National Medical Association*, *89*(11), 721.
- Moynihan, R., & Cassels, A. (2005). *Selling sickness*. New York: Nation Books.
- Mychailyszyn, M. P., Dosreis, S., & Myers, M. (2008). African American caretakers' views of ADHD and use of outpatient mental health care services for children. *Families, Systems, & Health*, *26*(4), 447.
- National Institute of Mental Health (2017). Retrieved from https://www.nimh.nih.gov/health/topics/attention-deficit-hyperactivity-disorder-adhd/index.shtml#part_145449
- Neighbors, H. W., & Jackson, J. S. (1984). The use of informal and formal help: Four patterns of illness behavior in the black community. *American Journal of Community Psychology*, *12*(6), 629-644.
- Neighbors, H. W., Bashshur, R., Price, R., Selig, S., Donabedian, A., & Shannon, G. (1992). Ethnic minority mental health service delivery: A review of the literature. *Research in Community and Mental Health*, *7*(1), 55-71.
- Neighbors, H. W., Trierweiler, S. J., Ford, B. C., & Muroff, J. R. (2003). Racial differences in DSM diagnosis using a semi-structured instrument: The importance of clinical judgment in the diagnosis of African Americans. *Journal of Health and Social Behavior*, *237-256*.
- Nelson, A. R., Stith, A. Y., & Smedley, B. D. (Eds.). (2002). *Unequal treatment: confronting racial and ethnic disparities in health care (full printed version)*. National Academies Press.
- Ng, K., & Virts, N. (1993). The Black-White Income Gap in 1880. *agricultural history*, *67*(1), 1-15.
- Nickerson, K. J., Helms, J. E., & Terrell, F. (1994). Cultural mistrust, opinions about mental illness, and Black students' attitudes toward seeking psychological help from White counselors. *Journal of Counseling Psychology*, *41*(3), 378.
- Olaniyan, O., Garriett, V., Mychailyszyn, M. P., Anixt, J., Rowe, P. C., & Cheng, T. L. (2007). Community perspectives of childhood behavioral problems and ADHD among African American parents. *Ambulatory Pediatrics*, *7*(3), 226-231.

Olfson M, Gameroff MJ, Marcus SC, et al: National trends in the treatment of attention deficit hyperactivity disorder. *American Journal of Psychiatry* 160:1071–1077, 2003

Parker, J. S., Murphy, W. J., Wang, D., O'Brien, S. J., & Parrish, C. R. (2001). Canine and feline parvoviruses can use human or feline transferrin receptors to bind, enter, and infect cells. *Journal of Virology*, 75(8), 3896-3902.

Pastor, P. N., & Reuben, C. A. (2005). Racial and ethnic differences in ADHD and LD in young school-age children: parental reports in the National Health Interview Survey. *Public health reports*, 120(4), 383-392.

Pescosolido, B. A., Schnittker, J., Martin, J., & Croghan, T. (2002). Does trust matter? The case of Americans' attitudes, illness beliefs, and behavioral predispositions toward mental health care. *Bloomington, IN: Indiana University*.

Popescu, I., Cram, P., & Vaughan-Sarrazin, M. S. (2011). Differences in admitting hospital characteristics for black and white Medicare beneficiaries with acute myocardial infarction. *Circulation*, CIRCULATIONAHA-110.

Quinn, P. O. (2008). Attention-deficit/hyperactivity disorder and its comorbidities in women and girls: an evolving picture. *Current Psychiatry Reports*, 10(5), 419-423.

Rafalovich, A. (2005). Exploring clinician uncertainty in the diagnosis and treatment of attention deficit hyperactivity disorder. *Sociology of health & illness*, 27(3), 305-323.

Ramey, D. M. (2014). *The Social Control of Childhood Behavior via Criminalization or Medicalization: Why Race Matters* (Doctoral dissertation, The Ohio State University).

Ramey, D. M. (2015). The social structure of criminalized and medicalized school discipline. *Sociology of Education*, 88(3), 181-201.

Ramey, D. M. (2018, March). The Social Construction of Child Social Control via Criminalization and Medicalization: Why Race Matters. In *Sociological Forum* (Vol. 33, No. 1, pp. 139-164).

Robins, Lee N. and Darrel A. Reiger. 1991. *Psychiatric Disorders in America: The Epidemiological Catchment Area Study*. New York: The Free Press.

Rowland, A. S., Umbach, D. M., Stallone, L., Naftel, J., Bohlig, M., & Sandler, D. P. (2002). Prevalence of medication treatment for attention deficit-hyperactivity disorder among elementary school children in Johnston County, North Carolina. *American Journal of Public Health*, 92, 231–234.

Samuel, V. (1996). African American children less likely to get Ritalin. *Clin Psychiatry News*, 24(12), 1-2.

Savitt, Todd (1982). "The Use of Blacks for Medical Experimentation and Demonstration in the Old South". *The Journal of Southern History*. 48 (3): 331–348.

Scherer, W. F., Syverton, J. T., & Gey, G. O. (1953). Studies on the propagation in vitro of poliomyelitis viruses. *Journal of Experimental Medicine*, 97(5), 695-710.

Scheffler, R. M., Brown, T. T., Fulton, B. D., Hinshaw, S. P., Levine, P., & Stone, S. (2009). Positive association between attention-deficit/hyperactivity disorder medication use and academic achievement during elementary school. *Pediatrics*, 123(5), 1273-1279.

Schneider, E. C., Cleary, P. D., Zaslavsky, A. M., & Epstein, A. M. (2001). Racial disparity in influenza vaccination: does managed care narrow the gap between African Americans and whites?. *Jama*, 286(12), 1455-1460.

Schnittker, J., Freese, J., & Powell, B. (2000). Nature, nurture, neither, nor: Black-White differences in beliefs about the causes and appropriate treatment of mental illness. *Social Forces*, 78(3), 1101-1132.

Schrader, C. D., & Lewis, L. M. (2013). Racial disparity in emergency department triage. *The Journal of emergency medicine*, 44(2), 511-518.

Sciutto, M. J., Nolfi, C. J., & Bluhm, C. (2004). Effects of child gender and symptom type on referrals for ADHD by elementary school teachers. *Journal of Emotional and Behavioral Disorders*, 12(4), 247-253.

Simoni, Z. R. (2017). Medicalization, Normalization, and Performance Edge: Teachers' Attitudes about ADHD Medication Use and the Influence of Race and Social Class. *Sociological Perspectives*, 0731121417691050.

Sims, J. M. (1884). *The story of my life*. D. Appleton.

Skloot, Rebecca. (2002). *The Immortal Life Of Henrietta Lacks*. New York : Crown Publishers.

Smith, V. (2002). Wonder woman: The life, death, and life after death of Henrietta Lacks, unwitting heroine of modern medical science. *Baltimore City Paper*, 17.

Skogli, E. W., Teicher, M. H., Andersen, P. N., Hovik, K. T., & Øie, M. (2013). ADHD in girls and boys—gender differences in co-existing symptoms and executive function measures. *BMC psychiatry*, 13(1), 298.

Snowden, L. R. (2001). Barriers to effective mental health services for African Americans. *Mental health services research*, 3(4), 181-187.

Snowden, L. R., & Cheung, F. K. (1990). Use of inpatient mental health services by members of ethnic minority groups. *American psychologist*, 45(3), 347.

Strakowski, S. M., Flaum, M., Amador, X., Bracha, H. S., Pandurangi, A. K., Robinson, D., & Tohen, M. (1996). Racial differences in the diagnosis of psychosis. *Schizophrenia Research, 21*(2), 117-124.

Sullivan, L., Meschede, T., Dietrich, L., & Shapiro, T. (2015). The Racial Wealth Gap. *Institute for Assets and Social Policy, Brandeis University. DEMOS.*

Sussman, L. K., Robins, L. N., & Earls, F. (1987). Treatment-seeking for depression by black and white Americans. *Social Science & Medicine, 24*(3), 187-196.

Taylor, P., Kochhar, R., Fry, R., Velasco, G., & Motel, S. (2011). Wealth gaps rise to record highs between Whites, Blacks and Hispanics. *Washington, DC: Pew Research Center, 37.*

Todd, K.H., Deaton, C., D'Adamo, A.P., & Goe, L. (2000). Ethnicity and analgesic practice. *Annals of Emergency Medicine, 35*(1), 11– 16.

U.S. Department of Education. (2004). To assure the free appropriate public education of all children with disabilities: Twenty-fourth annual report to Congress on the implementation of the Individuals with Disabilities Education Act. Washington, DC

U.S. Department of Health and Human Services. 2001. Mental Health: Culture, Race, and Ethnicity: A Supplement to 'Mental Health: A Report of the Surgeon General'. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services.

Visser, S. N., Danielson, M. L., Bitsko, R. H., Holbrook, J. R., Kogan, M. D., Ghandour, R. M., & Blumberg, S. J. (2014). Trends in the parent-report of health care provider-diagnosed and medicated attention-deficit/hyperactivity disorder: United States, 2003–2011. *Journal of the American Academy of Child & Adolescent Psychiatry, 53*(1), 34-46.

Wang, P. S., Berglund, P., & Kessler, R. C. (2000). Recent care of common mental disorders in the United States. *Journal of general internal medicine, 15*(5), 284-292.

Wang, P. S., Lane, M., Olfson, M., Pincus, H. A., Wells, K. B., & Kessler, R. C. (2005). Twelve-month use of mental health services in the United States: results from the National Comorbidity Survey Replication. *Archives of general psychiatry, 62*(6), 629-640.

Williams, D. R., & Collins, C. (2001). Racial residential segregation: a fundamental cause of racial disparities in health. *Public health reports, 116*(5), 404-416.

Williams, D. R., & Mohammed, S. A. (2009). Discrimination and racial disparities in health: evidence and needed research. *Journal of behavioral medicine, 32*(1), 20-47.

Zahner GEP, Daskalakis C: Factors associated with mental health, general health, and school-based service use for child psychopathology. *American Journal of Public Health* 87:1440–1448, 1997

Zhang, D., & Katsiyannis, A. (2002). Minority representation in special education: A persistent challenge. *Remedial and Special Education*, 21, 180-187.

Zito JM, Safer DJ, dosReis S, et al: Methylphenidate patterns among Medicaid youths. *Psychopharmacology Bulletin* 33:143–147, 1997

Zito JM, Safer DJ, dosReis S, et al: Racial disparity in psychotropic medications prescribed for youths with Medicaid insurance in Maryland. *Journal of the American Academy of Child and Adolescent Psychiatry* 37:179–184, 1998

Zwi, M., Jones, H., Thorgaard, C., York, A., & Dennis, J. A. (2011). Parent training interventions for Attention Deficit Hyperactivity Disorder (ADHD) in children aged 5 to 18 years. *The cochrane library*.

APPENDIX A: Participant Recruitment Email Text

Subject of Email: Participants Needed: Study exploring African American health behaviors and health care utilization practices

Body of Email:

Dear Students,

We are seeking participants to take part in a 60-minute interview for a research study exploring health behavior and health care utilization practices of African American adults who experienced adolescent symptoms of Attention Deficit Hyperactivity Disorder (ADHD) or adolescent symptoms of a behavioral disorder. Possible symptoms might include (but are not limited to) severe inattention, hyperactivity, and/or impulsivity in the classroom, at home, or at work. **To be eligible, participants are not required to have been formally diagnosed with ADHD or a behavioral disorder by a doctor.**

In particular, we want to understand the ways in which your parents managed your adolescent symptoms. We also want to understand your adolescent educational experiences, your general experiences with healthcare professionals, and your current health behaviors as an adult. The results of this study will be used to enhance our understanding of African American's experiences with symptoms of adolescent ADHD.

Participants will receive a \$10 gift card to thank them for their participation.

You are eligible to participate in the study if you:

1. Identify as African American (or non-Hispanic black)
2. Are 18 years of age or older
3. Experienced first symptoms of ADHD or a behavioral disorder beginning before the age of 12

Participation in interviews is voluntary and confidential. While your responses may be used in published journal articles, your identity will not be revealed to anyone outside of the research team.

If you are interested in participating in this study, please fill out and submit this short survey [\[insert qualtrics link\]](#)

If you have question about the study or eligibility, please contact me at MarissaL@vt.edu.

Sincerely,
Marissa Lang, M.A.
Doctoral Candidate, Sociology

APPENDIX B: Qualtrics Survey Recruitment Questions

Consent Information and Directions

You are invited to participate in a study that seeks to understand the health behaviors and health care utilization practices of African American’s who experienced adolescent symptoms of Attention Deficit Hyperactivity Disorder (ADHD).

Consent Information

The demographic information you provide will be used to identify eligibility for participation in a 60-minute (or less) interview.

It should take about 7 minutes to complete the survey.

There are no right or wrong answers. However, please choose your response options carefully. There are no known risks to study participants. Your responses will remain confidential. You are free to discontinue this survey at any time without any consequences. You should be over 18 to be eligible to participate in this study. Completion of this online questionnaire will be considered as your consent to participate in the survey portion of this study and permission to use your data to evaluate eligibility for a follow-up interview.

**Any questions concerning this study should be directed to [REDACTED]
[REDACTED] The Institutional Review Board (IRB).**

Demographic Questions:

**These questions will determine participant eligibility*

1. Do you identify as African American or non-Hispanic black?
2. How old are you?
3. Are you currently enrolled as university student?
4. Did you experience symptoms of attention deficit hyperactive disorder (ADHD) **beginning before the age of 12?** Symptoms might include (but are not limited to) inattention, hyperactivity, and/or impulsivity.

Preliminary Survey Questions

1. What is your gender?
2. In what city and state did you spend most of your adolescent years?
3. How many parents/ parental figures did you grow up with in the household?
4. What were/are your parents highest level of education?

5. What was your parent(s) primary occupation during your childhood?
6. Did your parent(s) own a home?
7. Have you or your parents ever consulted a health care professional concerning your potential symptoms of ADHD? Professionals might include doctors, psychiatrists, or behavioral therapists.
 - a. If yes: were you ever diagnose with ADHD?
 - b. If yes: have you ever taken prescription medication for ADHD?
8. If you are interested in being interviewed, please leave your name, phone number and email address in the box below.

APPENDIX C: CONSENT FORM

RESEARCH SUBJECT CONSENT FORM

Title: Racial Differences in Management of Attention Deficit Hyperactivity Disorder

Protocol No.: [REDACTED]

Sponsor: [REDACTED]

Investigator:

Marissa Lang
[REDACTED]
[REDACTED]
United States

Daytime Phone Number: [REDACTED]

24-hour Phone Number: [REDACTED]

You are being invited to take part in a research study. A person who takes part in a research study is called a research subject, or research participant.

What should I know about this research?

- Someone will explain this research to you.
- This form sums up that explanation.
- Taking part in this research is voluntary. Whether you take part is up to you.
- You can choose not to take part. There will be no penalty or loss of benefits to which you are otherwise entitled.
- You can agree to take part and later change your mind. There will be no penalty or loss of benefits to which you are otherwise entitled.
- If you don't understand, ask questions.
- Ask all the questions you want before you decide.

Why is this research being done?

The purpose of this research is to examine the health behaviors and health care utilization practices of African American adults who experienced adolescent symptoms of Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD).

About 12 subjects will take part in this research.

How long will I be in this research?

We expect that your taking part in this research will last approximately 1 hour.

What happens to me if I agree to take part in this research?

As a research participant, you will complete a one-time, semi-structured interview that will last approximately 60 minutes. You will be asked questions about the ways in which your parents managed your adolescent symptoms, your adolescent educational experiences, your general experiences with healthcare professionals, and your current health behaviors and health care utilization practices as an adult. Sociodemographic questions will also be asked, such as your

race or ethnicity, gender, age, as well as neighborhood and school demographics. As a semi-structured interview, there will be a list of questions used as a guide, but you are encouraged to discuss what you feel is important regarding the selected topic. After this one-time interview, you may choose to stay updated, if desired, about the progress of the project.

The interviewer will travel to a location of your choice to conduct the interview, whether it is a private home, office, or publicly available quiet space. If an in-person interview is not feasible interviews can also be conducted via video conference or phone. We recommend a space that is both quiet and private. All interviews will be audio recorded for the ease of transcribing the conversations. After your interview is transcribed, it will be de-identified and given a unique identifier code to protect your privacy. Additional measures will be taken to protect your privacy such as housing your transcript and voice recording in a secure file on a password protected and encrypted laptop computer. At no time will the researcher release identifiable results of the study to anyone other than individuals working on the project without your written consent.

What are my responsibilities if I take part in this research?

If you take part in this research, you will be responsible to: Alert the interviewer if at any time you feel as though you no longer want to participate in the research study.

Could being in this research hurt me?

As a participant, you are not at any serious risk or threat by participating in this study. Minimal discomfort may arise if you become uncomfortable discussing adolescent experiences that might give context for understanding your experience of ADHD symptoms. If you would prefer not to discuss a topic, you have the right to decline answering a question.

Will being in this research benefit me?

There are no benefits to you from your taking part in this research. We cannot promise any benefits to others from your taking part in this research. However, possible benefits to others include reevaluating the ways in which ADHD in African American adolescent are managed in both educational and health care settings.

What other choices do I have besides taking part in this research?

This research is not designed to diagnose, treat or prevent any disease. Your alternative is to not take part in the research.

What happens to the information collected for this research?

Your private information and will be shared with individuals and organizations that conduct or watch over this research, including:

- The research sponsor

- The immediate research team
- The Institutional Review Board (IRB) that reviewed this research
- The researcher transcribing your interview

We may publish the results of this research. However, we will keep your name and other identifying information confidential.

We protect your information from disclosure to others to the extent required by law. We cannot promise complete secrecy.

Who can answer my questions about this research?

If you have questions, concerns, or complaints, or think this research has hurt you or made you sick, talk to the research team at the phone number listed above on the first page.

This research is being overseen by an Institutional Review Board (“IRB”). An IRB is a group of people who perform independent review of research studies. You may talk to them at (800) 562-4789, help@wirb.com if:

- You have questions, concerns, or complaints that are not being answered by the research team.
- You are not getting answers from the research team.
- You cannot reach the research team.
- You want to talk to someone else about the research.
- You have questions about your rights as a research subject.

What if I am injured because of taking part in this research?

Participation in this study does not pose any risk of bodily injury.

Can I be removed from this research without my approval?

The person in charge of this research can remove you from this research without your approval. Possible reasons for removal include:

For example:

- You are not an eligible participant due to pre-determined guidelines

What happens if I agree to be in this research, but I change my mind later?

If you decide to leave this research, contact the research team so that the investigator can: Describe the procedures for orderly termination by the subject.

Will I be paid for taking part in this research?

For taking part in this research, you will be compensated with a \$10 Amazon gift card. Your compensation will be broken down as follows:

- You will be gifted a \$10 Amazon gift card to thank you for your participation
- You will receive a gift card following your participation in the scheduled interview
- If you decide at any time during the interview that you would prefer not to continue with the study you will still be compensated in the form of a gift card

Statement of Consent:

Your signature documents your consent to take part in this research.

_____	_____
Signature of adult subject capable of consent	Date
_____	_____
Signature of person obtaining consent	Date

APPENDIX D: Table of Descriptive Statistics for Full Sample

Descriptive Statistics

Variables	Mean	SD	Range	N
<i>Race (Black = 1)</i>	0.18	0.39	0-1	6831
<i>Sex (Male = 1)</i>	0.51	0.45	0-1	6831
<i>Parents Highest Level of Education</i>				6831
Less Than High School Education	0.10	0.31	0-1	748
High School Education	0.31	0.46	0-1	2062
Some College	0.21	0.41	0-1	1413
College Education	0.39	0.49	0-1	2608
<i>Household Income</i>				4219
Income	5.55	7.49	1-32	4219
<i>Household Location</i>				4219
Large City	0.19	0.39	0-1	825
Suburbs	0.26	0.44	0-1	1101
Small City	0.29	0.45	0-1	1206
Town/Village Rural	0.24	0.43	0-1	1044
<i>DSM-IV Classifications</i>				6831
Attention Deficit Disorder	0.04	0.20	0-1	288
Oppositional Defiance Disorder	0.10	0.30	0-1	695
General Anxiety Disorder	0.03	0.18	0-1	237
Conduct Disorder	0.05	0.21	0-1	315
Bipolar I	0.01	0.10	0-1	68
Bipolar II	0.01	0.10	0-1	70
Bipolar Sub	0.04	0.20	0-1	290
<i>Dependent Variables</i>				
Concentration and Attention	2.45	0.64	0-4	619
Restlessness and Impatience	2.50	0.63	0-4	828
Notification of Symptoms by an Adult for Restlessness and Impatience	0.56	0.50	0-1	1237

Professional Care for Concentration and Attention	0.39	0.48	0-1	1630
Professional Treatment for Concentration and Attention	0.32	0.47	0-1	1670
Professional Treatment for Restlessness and Impatience	0.20	0.4	0-1	1286
Prescribed Medication for Concentration and Attention	0.27	0.45	0-1	1670
Special Education	0.03	0.18	0-1	5033

APPENDIX E: Descriptive Statistics for Self-Rated Attention and Concentration Screening Question (NCS-A)

Variables	Mean	SD	Range	N
<i>Race (Black = 1)</i>	0.23	0.42	0-1	895
<i>Sex (Male = 1)</i>	0.65	0.48	0-1	895
<i>Parents Highest Level of Education</i>				
Less Than High School Education	0.16	0.37	0-1	895
High School Education	0.33	0.47	0-1	895
Some College	0.23	0.42	0-1	895
College Education	0.28	0.45	0-1	895
<i>Household Income</i>				
Income	6.63	8.24	1-32	489
<i>Household Location</i>				
Large City	0.26	0.44	0-1	682
Suburbs	0.23	0.42	0-1	682
Small City	0.30	0.46	0-1	682
Town/Village Rural	0.19	0.40	0-1	682
Moved Around	0.02	0.14	0-1	682

APPENDIX F: Chi-Square for Self-Rated Attention and Concentration Screening Question (NCS-A)

<i>Chi-Square Race *Screening Question for Attention and Concentration</i>					
		Race of respondent			Chi-Square
		white	black	Total	
no	Count	2815	397	3212	14.321*
	% within Race	67.3%	57.0%	65.8%	
	Count	1367	300	1667	
yes	% within Race	32.7%	43.0%	34.2%	

* = $p < .05$, ** = $p < .001$.

APPENDIX G: Regression of Screening Question for Concentration and Attention (NCS-A)

	Variables	Exp(B)
	Constant	0.10**
<u>Sociodemographic Factors</u>	Race (Black = 1)	1.35*
	Sex (Male = 1)	2.21**
Parent Education	Less Than High School	1.62**
	High School	1.54**
	Some College	1.02**
Income	Income	.71**
Household Location	Large City	.60
	Suburbs	.59
	Small City	.45
	Town/Village/Rural	.10

Dependent Variable: During your first years at school—say between the ages of kindergarten and second grade -- was there ever a period lasting six months or longer when you had a lot more trouble with problems of this sort than most children? * = $p < .05$, ** = $p < .001$.

APPENDIX H: Descriptive Statistics for Self-Rated Restlessness and Impatience Screening Question (NCS-A)

Variables	Mean	SD	Range	N
<i>Race (Black = 1)</i>	0.19	0.40	0-1	1202
<i>Sex (Male = 1)</i>	0.60	0.49	0-1	1202
<i>Parents Highest Level of Education</i>				
Less Than High School Education	0.13	0.34	0-1	1202
High School Education	0.27	0.45	0-1	1202
Some College	0.25	0.43	0-1	1202
College Education	0.35	0.48	0-1	1202
<i>Household Income</i>				
Income	6.13	7.85	1-32	732
<i>Household Location</i>				
Large City	0.22	0.44	0-1	788
Suburbs	0.22	0.42	0-1	788
Small City	0.31	0.46	0-1	788
Town/Village Rural	0.23	0.40	0-1	788
Moved Around	0.01	0.14	0-1	788

APPENDIX I: Chi-Square for Self-Rated Attention and Concentration Screening Question (NCS-A)

<i>Chi-Square Race *Screening Question for Restlessness and Impatience</i>					
		Race of respondent		Total	Chi-Square
		white	black		
no	Count	4687	1093	5780	1.24
	% within Race	67.3%	57.0%	81.3%	
	Count	861	182	1043	
yes	% within Race	82.6%	17.4%	18.7%	

* = p < .05, ** = p < .001.

APPENDIX J: Regression of Self-Rated Restlessness and Impatience Screening Question (NCS-A)

		Variables	Exp(B)
		Constant	0.11**
<u>Sociodemographic Factors</u>		Race (Black = 1)	0.86
		Sex (Male = 1)	1.47**
Parent Education		Less Than High School	1.13
		High School	1.26
		Some College	1.39**
Income		Income	1.01*
Household Location		Large City	1.72
		Suburbs	1.13
		Small City	1.52
		Town/Village/Rural	1.11

Dependent Variable: Some young kids are very restless and fidgety and so impatient that they often interrupt people and have trouble waiting their turn. Did you ever have a time before the age of seven lasting six months or longer when you were like that? * = p < .05, ** = p < .001.

**APPENDIX K: Screening Question for Parent-Identified Concentration and Attention
(PSA-Q)**

Before the age of 7, was there ever a time lasting six months or longer when (he/she) often had any of the following problems?

- A.** Often lost things like homework or books.
 - B.** Often had trouble paying attention to details or made a lot of careless mistakes in homework, work, or other activities.
 - C.** Often forgot what (he/she) was supposed to be doing.
 - D.** People often said that (he/she) did not seem to be listening to them.
 - E.** Quickly lost interest in games or work.
 - F.** Was unable to keep (his/her) mind on what (he/she) was doing if things were going on nearby
 - G.** Disliked, stayed away from, or put off doing things that needed a lot of concentration.
 - H.** Got confused when (he/she) had to make plans or decide the order in which to do things.
 - I.** Often did not finish chores, homework or other work even when (he/she) meant to get them done and knew how to do them.
-

If at least 1 of these questions was answered “yes,” parents were asked further questions:

H2: “How many teachers or other adults ever encouraged you to see a doctor or other professional about his/her attention or concentration problems?”

H2: “Did he/she ever receive professional treatment for his/her attention or concentration problems?”

H3: “Was he/she ever prescribed medication for attention or concentration problems?”

APPENDIX L: Descriptive Statistics for Parent-Identified Concentration and Attention Screening Question (PSA-Q)

Variables	Mean	SD	Range	N
<i>Race (Black = 1)</i>	0.19	0.39	0-1	1668
<i>Sex (Male = 1)</i>	0.61	0.49	0-1	1668
<i>Parents Highest Level of Education</i>				
Less Than High School Education	0.13	0.34	0-1	1668
High School Education	0.30	0.46	0-1	1668
Some College	0.22	0.41	0-1	1668
College Education	0.35	0.48	0-1	1668
<i>Household Income</i>				
Income	5.89	7.41	1-32	1101
<i>Household Location</i>				
Large City	0.19	0.40	0-1	1082
Suburbs	0.24	0.42	0-1	1082
Small City	0.35	0.48	0-1	1082
Town/Village Rural	0.20	0.40	0-1	1082
Moved Around	0.02	0.13	0-1	1082

APPENDIX M: Chi-Square for Parent-Identified Attention and Concentration Screening Question (PSA-Q)

*Chi-Square Race *Screening Question for Attention and Concentration*

		Race of respondent			Chi-Square
		white	black	Total	
no	Count	2815	397	3212	26.58**
	% within Race	67.3%	57.0%	65.8%	
yes	Count	1367	300	1667	
	% within Race	32.7%	43.0%	34.2%	

* = p < .05, ** = p < .001.

APPENDIX N: Regression of Screening Question for Parent-Identified Concentration and Attention (PSA-Q)

	Variables	Exp(B)
	Constant	0.50
<u>Sociodemographic Factors</u>	Race (Black = 1)	1.19
	Sex (Male = 1)	1.60**
Parent Education	Less Than High School	2.44**
	High School	1.29*
	Some College	1.04**
Income	Income	1.01*
Household Location	Large City	0.79
	Suburbs	0.57
	Small City	0.79
	Town/Village/Rural	0.49

Dependent Variable: Before the age of 7, was there ever a time lasting six months or longer when he/she often had any of the following problems? (concentration and attention)

* = $p < .05$, ** = $p < .001$.

APPENDIX O: Screening Question for Parent-Identified Restlessness and Impatience (PSA-Q)

PSAQ Survey Screening Question for Restlessness and Impatience

Before the age of 7, did (NAME) ever have a time lasting six months or longer when (he/she) often had any of the following problems with restlessness or impatience?

- A.** Often was very active when not supposed to be – for example, climbing on things or running around even after being asked to keep still.
 - B.** Often was very restless and could not sit still.
 - C.** Often was on the go taking little time to rest.
 - D.** Had trouble playing quietly or doing quiet activities like reading or being read to for more than a few minutes at a time.
 - E.** Usually fidgeted or squirmed a lot when sitting down.
 - F.** Often got up from (his/her) seat when not supposed to – like at dinner, at school or at religious services?
 - G.** Talked a lot more than other kids (his/her) age.
 - H.** Often blurted out answers before someone could finish asking the question.
 - I.** Often interrupted people or abruptly joined other people’s conversations without being asked.
 - J.** Often tried to join games or other activities that were already happening
 - K.** Had a lot of trouble waiting (his/her) turn.
-

If at least 1 of the questions were answered “yes,” parents were asked further questions:

H2: “How many teachers or other adults ever told you that (he/she) had problems with restlessness or impatience?”

H2: “Did he/she ever receive professional treatment for problems with restlessness or impatience?”

APPENDIX P: Descriptive Statistics for Parent-Identified Restlessness and Impatience Screening Question (PSA-Q)

Variables	Mean	SD	Range	N
<i>Race (Black = 1)</i>	0.17	0.37	0-1	1346
<i>Sex (Male = 1)</i>	0.63	0.48	0-1	1346
<i>Parents Highest Level of Education</i>				
Less Than High School Education	0.14	0.35	0-1	1346
High School Education	0.28	0.45	0-1	1346
Some College	0.25	0.43	0-1	1346
College Education	0.32	0.47	0-1	1346
<i>Household Income</i>				
Income	6.91	5.43	1-32	801
<i>Household Location</i>				
Large City	0.17	0.37	0-1	852
Suburbs	0.23	0.42	0-1	852
Small City	0.33	0.47	0-1	852
Town/Village Rural	0.25	0.43	0-1	852
Moved Around	0.02	0.14	0-1	852

APPENDIX Q: Chi-Square for Parent-Identified Restlessness and Impatience Screening Question (PSA-Q)

*Chi-Square Race *Screening Question for Attention and Concentration*

		Race of respondent			Chi-Square
		white	black	Total	
no	Count	3037	473	3212	7.93*
	% within Race	73.0%	67.9%	65.8%	
yes	Count	1122	224	1346	
	% within Race	27.0%	32.1%	34.2%	

* = $p < .05$, ** = $p < .001$.

**APPENDIX R: Regression for Parent-Identified Restlessness and Impatience
Screening Question (PSA-Q)**

	Variables	Exp(B)
	Constant	0.52
		0.90
<u>Sociodemographic Factors</u>	Race (Black = 1)	
		2.12**
	Sex (Male = 1)	
		2.87**
Parent Education	Less Than High School	
	High School	1.12
	Some College	1.85**
Income	Income	1.00
Household Location	Large City	0.45
	Suburbs	0.30*
	Small City	0.40
	Town/Village/Rural	0.32*

Dependent Variable: Before the age of 7, did this adolescent ever have a time lasting six months or longer when he/she often had any of the following problems with restlessness or impatience?
* = $p < .05$, ** = $p < .001$.