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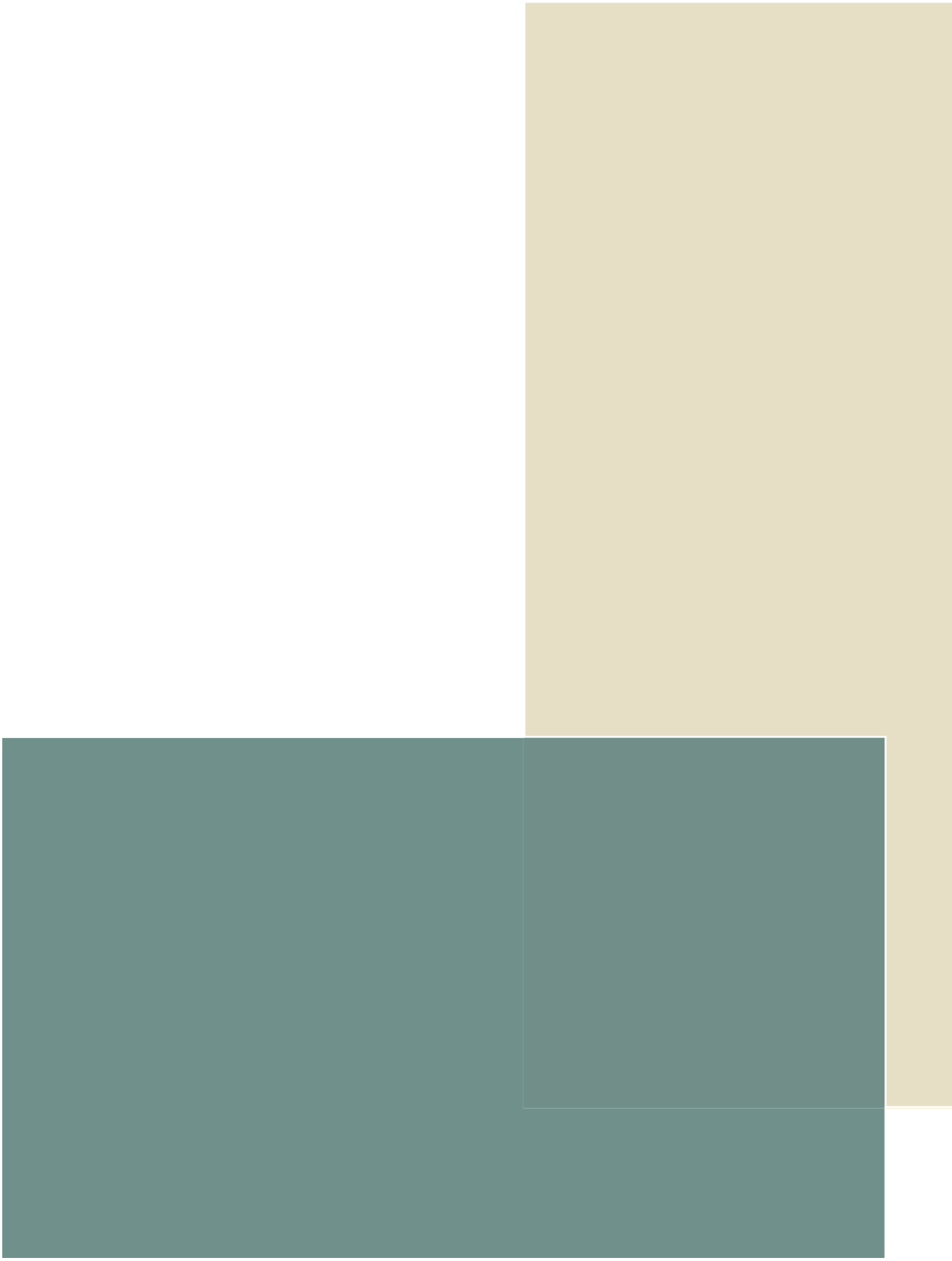

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Q.U.E.S.T.

QUALITY UNDERGRADUATE EDUCATION AND SCHOLARLY TRAINING

Summer 2021 | Volume IV

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QUEST Scholars

I.S.L.A.N.D.

Infant Studies of Language and Neurocognitive Development

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The Infant Studies of Language and Neurocognitive Development, directed by Natalie Brito is a developmental psychology lab interested in the impact of the social and language environment on early neurocognitive development. The ultimate goal of the lab is to understand how to best support caregivers and create environments that foster optimal child development.

A Two-Way Street: The Association Between Justice System Contact, Self-Efficacy, and Sense of School Belonging for Black Girls

Ja"Chelle Ball

With urban youth, specifically Black and Latino/a youth, having concentrated levels of law enforcement within their communities, exposure directly and vicariously to police is a common experience (Rengifo & Pater, 2017). Exposure, which includes arrests, experiences staying in juvenile or detention centers, and referrals for arrests by school systems, has produced extensive research regarding its effects on youth academic outcomes. Findings suggest a significant association between exposure to the justice system and academic outcomes that negatively impact youth. For example, Novak (2019) examined the association between justice system contact in childhood (i.e., contact by the age of 12) and later outcomes and found that youth who experienced their first justice system contact by age 12 had a proportional increase in dropping out of high school by age 18. Similarly, research has shown that youth arrested as juveniles were 9.65 times more likely to drop out of high school (Hirschfield, 2009). Such findings suggest that the heavily concentrated levels of law enforcement within urban communities have a negative impact on youth's education, which subsequently impacts long-term outcomes. Particularly, through an ecological lens, it is important to examine these experiences by assessing the individual, their context, as well as the systems that the individual navigates to challenge existing research that overemphasizes the individual as the problem that needs intervention (Javdani, 2013). Ultimately, this framework could provide a more nuanced understanding of how the individual and their context are interrelated and, in effect, shift how we approach strategies and efforts to decrease negative academic and long-term outcomes for urban youth.

The Significance of Context on Self-Efficacy

Research has examined how youth develop protective factors to overcome adversity, such as exposure and contact with the justice system. Findings report that adolescents who have supportive parental relationships and feel safe in their neighborhoods tend to remain positive about their potential for future success compared to those that feel unsafe and have less parental support (McCoy & Bowen, 2015). Ultimately, this suggests that the social and environmental contexts urban youth are faced with influence long-term outcomes; however, it is important to understand how these contexts are simultaneously associated with and significant to the individual. Hence, research has examined self-efficacy, or one's own belief in their ability to face adversity, as an important factor that predicts how individuals cope and adapt in the face of stress and challenges (Schwarzer & Jerusalem, 1995). Self-efficacy has been linked to students remaining positive about their future, goal setting and attainment, and sense of school membership (Carroll et al., 2013; Kapoor & Tomar, 2016; McCoy & Bowen, 2015). This finding suggests that perceived self-efficacy is a form of resilience for youth who face adverse circumstances, including exposure to law enforcement. Notably, attitudes and beliefs about the self, others, and the world (e.g., cynicism, mistrust in law enforcement) that impact behaviors can be prevalent in urban youth (Geller & Fagan, 2019; Jackson et al., 2020). Thus, perceived self-efficacy, which may balance or prevent such detrimental patterns of thought from developing, is an important factor in better understanding the various trajectories of youth who encounter law enforcement in their childhood and adolescence.

The Role of Psychological Sense of School Membership

Based on an ecological framework, the social context one finds themselves in is interrelated and mutually affects one another (Bronfenbrenner, 1979). Thus, another relevant factor regarding academic outcomes is one's psychological sense of school membership. Psychological sense of school membership, or the extent to which students feel personally accepted, respected, included, and supported by others in the school social environment (Goodenow, 1993), has been shown to benefit students positively (Gray et al., 2018). Research has found that when students felt a sense of belonging in a particular class, they were more motivated and confident about achieving their academic goals (Freeman et al., 2007). Yet, for Black students, their racial identities place them at an increased risk of feeling displaced and not

belonging in educational spaces (Gray et al., 2018). Historically, educational spaces in the United States have functioned under a color-blind approach that fails to acknowledge the cultural differences among students. Thus, by doing so, these systems perpetuate social inequities that do not recognize or promote for students the opportunity to explore their racial identity in a reaffirming cultural context.

Consequently, this decreases the freedom for Black youth to build community with others who look like them, their sense of fitting in within the school setting, and feelings of acceptance within the educational environment (Gray et al., 2018). As a result of not feeling accepted at school, this may lead students to place less value on education and experience more depressive symptoms (Gallus et al., 2015), both of which may have an effect on academic outcomes. Hence, students' sense of school belonging is important when examining social contexts like an educational setting. The social environment can influence how students navigate, interpret, and understand their place within the school setting, impacting students' academic outcomes.

Similarly, Paternoster and Iovanni's (1989) labeling theory (i.e., experiences of labeling may lead to adopting a deviant self-identity and lifestyle) suggests that involvement with the justice system as a factor of youth's social context may contribute to youth's self-perceptions. By being involved with the justice system, youth may label themselves as deviant given the fact that those within their social environment have already negatively perceived them and their behaviors as deviant. Hence, by one's social context analysis of the simultaneously influencing youth's self-perceptions and their understanding of how others perceive them, this context may shape their lifestyles, behaviors, and attitudes. Therefore, the intersectionality and accumulation of social identities for Black justice system-involved youth can influence their perceived sense of belonging in education spaces, explaining their perceived self-efficacy and impacting their lives immediately and in the long term.

The Current Study

Despite research presenting an association between these factors, much of this research has focused on either overall urban youth, urban Black youth, or specifically Black males. Little research focuses on the specific effects of justice system involvement on self-efficacy and sense of school membership for Black girls. This gap in the literature is concerning as Black girls are more likely to be arrested or referred to law enforcement at school than their white counterparts (Rhor, 2019). Data also shows that while arrests for boys over the past several decades have remained constant or decreased, girls' arrests have increased (Javdani, 2013). With arrests and contact with the justice system for girls, especially Black girls, being significantly higher than their male counterparts, examining how these experiences with the justice system are associated with their sense of school belongingness and self-efficacy is essential.

Therefore, I propose that through an ecological lens, examining these factors in Black girls will allow for a more robust understanding of the interconnectedness between the social contexts of Black girls, the impact these contexts have on Black girls as individuals, and how these girls may influence social contexts. Overall, the goal of the current study is to examine the association between justice system involvement, self-efficacy, and school sense of belonging in Black girls. I hypothesize that for Black girls, exposure to the justice system would lower self-efficacy in school. As Black girls are exposed to the justice system, and educational settings are aware of their exposure, their levels of self-efficacy will be mediated by their sense of school belonging. Due to this social context (i.e., justice system exposure, the level of social support one receives from their school environment may affect perceived self-efficacy.

Method

Participants

This study used data from the Resilience, Opportunity, Safety, Education, Strength (ROSES) program, a community-based, trauma-informed, advocacy program for girls involved in or at-risk of involvement in the juvenile justice system (Javdani & Allen, 2016). In 2016, the research team recruited adolescent girls between the ages of 11 and 18 years old who were either at-risk for involvement in the juvenile justice system or experienced detainment in non-secure detention and placement facilities, as well as limited-secure placement facilities in New York City. At-risk girls were defined as those with previous contact with police, those absent from school in ways that indicated excessive absenteeism based on New York City standards, or if caregivers reported fear that their girls would get in trouble with the police. Through working closely with the Division of Youth and Family Justice and the

Administration of Children's Services, the principal investigator and project director were able to recruit girls that experienced detainment as well as overall program recruitment. For the current study, the sample included 168 Black girls that varied by year in school from grades 6-12.

Procedure

A randomized controlled trial was conducted with ROSES participants to assess and provide evidence of the program's effectiveness in increasing self-efficacy, decreasing aggression, and improving contextual outcomes (e.g., changing resources and information available to girls) in order to support alternative methods to juvenile justice system involvement. Baseline data were collected at the beginning of the trial (T1), mid-intervention six weeks later (T2), post-intervention 12 weeks later (T3), and at a 3-month follow-up period (T4). Participants were compensated $20, $30, $40, $50, and $60 respectively for their participation at each time point. For this study, secondary data analysis was conducted. The current study's sample included all participants who identified as Black and completed information on the self-reported offending scale, general self-efficacy scale, and psychological sense of school membership scale during time point one (T1).

Measures

The Self-Reported Offending Scale

The Self-Reported Offending Scale (SROS; Huizinga et al., 1991) is a 24-item self-reporting questionnaire that seeks to capture respondents' involvement in antisocial and illegal activities (e.g., theft, assault, public disorder). For the ROSES study, a modified version was used with ten items deleted. Items asked about various offenses (e.g., "Have you ever: driven a motor vehicle when you did not have a driver's license or after your license had been suspended in the past three months?"). Participants were then prompted to report the frequency of the offending (e.g., "How many times have you done this in the past 3 months?"), the age of the first offense, last time of offense, and police or court involvement (e.g., "Did the police talk to you about this?"). The measure was used to collect information regarding direct exposure or contact with the legal system. An indicator of SROS was created using four items: "Have you ever been arrested for skipping school?", "Did you ever get to go to juvenile or adult court after being in trouble with the police?", "Were you ever on probation?", and "Have you lived in a juvenile or correctional center?". Participants were given a '1' if they said yes to any of these items, and a '0' if they said no or did not answer.

General Self-Efficacy Scale

To assess self-efficacy, the General Self-Efficacy Scale (GSES) was utilized to evaluate a person's perceived self-efficacy (i.e., one's own belief in their ability to face adversity) to assess how the individual copes and adapts in the face of stress and challenges (Schwarzer & Jerusalem, 1995). Studies of multicultural validation of the scale report high internal consistency of the scale ranging from .86 to .94 (Luszczynska et al., 2005). Adolescents ages 12 and over complete this self-reporting measure consisting of 10 items related to self-efficacy (e.g., "When I am confronted with a problem, I can usually find several solutions"). Participants rate how true they feel about each described item on a Likert scale with answer options ranging from (1) Not at all true to (4) Exactly true (Schwarzer & Jerusalem, 1995). Participants completed this questionnaire at time point 1. The GSES demonstrated high reliability in the current study (α = .87).

Psychological Sense of School Membership

The Psychological Sense of School Membership (PSSM; Goodenow, 1993) scale is an 18-item, self-reporting survey that measures the perceived belonging in schools (e.g., "It is hard for people like me to be accepted at my school"). After three studies to determine the scales' applicability in diverse settings, results report high internal consistency variability ranging from .77 to .88 (Goodenow, 1993). Participants rated items on a 5-point Likert scale with answer options ranging from (1) Not at all true to (5) Completely true. Due to time constraints, participants completed this questionnaire at time point 2, post-intervention 12 weeks later, during the ROSES study. Therefore, for the current study, data from time point 2 (T2) was used for this measure. The PSSM demonstrated high reliability in the current study (α = .88).

Analytic Plan

Multiple regression analyses were conducted to assess the degree to which justice system exposure was related to levels of self-efficacy. Given that sense of school belonging is significant to academic and life outcomes for Black youth (Gray et al., 2018), regression analyses were also conducted to examine whether or not the sense

of school belonging mediates the relationship between justice system exposure and self-efficacy. Analyses were temporally ordered, assessing how exposure to the justice system at T1 (baseline) influences sense of school belonging at T2, and finally examining how both justice system exposure and sense of school belonging relate to self-efficacy at T1. These analyses provided the opportunity to assess how predictive sense of school belonging was on the relationship between justice system exposure and levels of self-efficacy. Additionally, analyses included examinations of the covariates: age and year in school to account for sources of variability in analyses.

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Results

Descriptive information and statistics for participants can be found in Table 1. The majority of the sample was in the middle adolescence stage (14-17 years old), and the average age of participants was 14.4 years old with a standard deviation of 1.62. Descriptive analyses of general self-efficacy and sense of school belonging can be found in Table 2. On average, participants had moderate levels of self-efficacy (M = 28.74, SD = 5.45) from a range of 10-40. Additionally, on average, participants held moderate sentiments about school belonging (M = 3.58, SD = .74) from a range of 1-5.

To test whether the psychological sense of school belonging mediates the relationship between direct contact with the justice system and general self-efficacy, linear regression analyses were conducted. Justice system contact was entered as the predictor variable in the first analysis, and general self-efficacy was entered as the outcome variable; age and year in school were entered as covariates. Although year in school significantly predicted variation in general self-efficacy (ß = .22, $F(3,182) = 4.41$, $p < .01$), justice system contact was not significantly associated with general self-efficacy (ß = -.11, $F(3,182) = 4.41$, $p = .13$). Given that the first predictor (system contact) was not significantly associated with the outcome (self-efficacy), the two remaining analyses to test a full mediation were not conducted. However, additional analyses were conducted to examine the relationships between system contact, perceived school belonging, and general self-efficacy.

In the second analysis, justice system contact was entered as the predictor, sense of school belonging was entered as the outcome variable, and age and year in school were entered as covariates. Adjusting for covariates, justice system contact was significantly associated with sense of school belonging such that girls with lower system contact demonstrated a higher sense of belonging (ß = .15, $F(3,164) = 2.01$, $p = .05$). Age and year in school were not associated with sense of belonging (ß = -.04, $F(3,164) = 2.01$, $p = .62$; ß = -.09, $F(3,164) = 2.01$, $p = .28$).

Finally, in the third analysis, sense of school belonging was entered as the predictor variable and general self-efficacy was entered as the outcome variable; age and year in school were again entered as covariates. Sense of school belonging and age were not significantly associated with self-efficacy (ß = .07, $F(3,160) = 3.14$, $p = .40$; ß = .004, $F(3,160) = 3.14$, $p = .96$) but year in school was significantly associated with self-efficacy (ß = .23, $F(3,160) = 3.14$, $p < .01$).

Discussion

The present study aimed to understand the effect of direct legal system exposure on self-efficacy and sense of school belonging for Black girls to better inform policies and practices related to social intervention. Surprisingly, the expected hypotheses were not confirmed, with no relationship found between exposure to the justice system and levels of self-efficacy in Black girls. However, additional analyses revealed significant associations between justice system contact, self-efficacy, and sense of school belonging when adjusting for year in school. Specifically, I found that year in school was related to self-efficacy and that justice system contact was related to sense of school belonging when entering age and year in school as covariates in analyses.

Finding that year in school was related to self-efficacy is significant given that majority of the

sample were in the first two years of high school. This finding suggests that the year in school may play a significant role in shaping the perceived self-efficacy of these girls. Intuitively, these findings make sense given that the first two years of high school are important for youth in terms of transitioning to high school and navigating the increased social pressures and communities that arise in high school (i.e., participation in illegal activities, perceptions of popularity, memberships in popular groups).

For many students, the transition from smaller middle schools to large high schools with more rigorous coursework is difficult and can negatively impact students' academic performance, attendance, behavior, and more (McCallumore & Sparapani, 2010). Thus, the dynamic of the school context during this transitional period may play an important role in shaped perceived self-efficacy in students that again contribute to academic and long-term outcomes. For instance, Black girls that are involved with the justice system, may face additional adversity in building relationships with students and faculty, asking for help, communicating with others, etc. during the ninth grade. Hence, this difficulty in transitioning and immersion into a new social context could contribute to lower self-efficacy levels in the girls. As a result, Black girls attendance, behavior, and more (McCallumore & Sparapani, 2010). Thus, the dynamic of the school context during this transitional period may play an important role in shaped perceived self-efficacy in students that again contribute to academic and long-term outcomes. For instance, Black girls that are involved with the justice system, may face additional adversity in building relationships with students and faculty, asking for help, communicating with others, etc. during the ninth grade. Hence, this difficulty in transitioning and immersion into a new social context could contribute to lower self-efficacy levels in the girls. As a result, Black girls involved with the justice system may be placed into a cyclical cycle that may further push them out of school or further contact with the justice system.

Consequently, sense of school belonging could be the factor that helps explains this phenomenon. Finding that justice system contact is related to sense of school belonging suggests that factors among the individual may shape the context that allows students to develop a positive sense of school belonging. More specifically, for Black girls that already face potential marginalization due to their racial and gender identities, involvement with the justice system adds another layer to their identity that individuals within the school setting may be aware of. As a result, this could shape how and why others within the school setting perceive and interact with the Black girls, ultimately impacting their perceived school belonging and self-efficacy.

With the difficulty of transitioning to the ninth and tenth grades, the dynamics of the school context may shape their understanding of the self, others around them, and the social settings they are a part of. Due to the significant amount of time spent in this social context, it can play an important role in identity development, providing youth with opportunities to build connections, explore communities to determine where they belong, and not be afforded the same freedom to explore and develop connections with various communities as their counterparts would. Instead, those within their social context may constantly perceive them as deviant, exclude them from multiple communities and opportunities, and ultimately force them to adopt an identity where their perceived deviance is a salient aspect of who they are. In turn, this may limit the types of people, resources, opportunities, behaviors, and beliefs the girls may be exposed to or hold. Therefore, they may downplay their abilities, place less emphasis on education, participate less, and even attend school less, if at all. As a result, they may put themselves at an increased risk of further or continued exposure to the justice system. Thus, with year-in-school being related to self-efficacy, the dynamics of the school context and aspects of the individual girls may coincide to shape these Black girls' sense of school belonging, potentially explaining self-efficacy levels found.

These findings are important when considering policies and strategies that promote positive academic and life outcomes such as graduating from school, decreasing suspension and police referrals, truancy rates, recidivism, and employment. By understanding what factors influence self-efficacy, a key contributor to engagement in antisocial and acceptable behaviors, policymakers can develop specifically more socially and culturally appropriate strategies for individuals in a particular social context like educational settings. Respectively, when developing and implementing policies to promote academic outcomes, policymakers should consider the various individual and intersectional social identities youth hold in order to ensure policies are culturally and socially inclusive rather than one size fits all models. With Black girls

having these intersectional identities in both race and gender, they are placed in a unique position of marginalization. The inclusion of justice system involvement furthers their marginalization as they may be increasingly stereotyped and discriminated against in school in a cumulative fashion. Overall, through more inclusive policy development and implementation, the individual and context can be of mutual focus, challenging current strategies that overemphasize the individual as the factor needing intervention and ensuring more positive outcomes.

Limitations and Future Directions

While the expected hypotheses were not confirmed, this may result from a limited and small sample size of only 168 participants. The data utilized for the current study stemmed from a longitudinalrandomized control trial that collected data at various data points. As a result, participant drop-off was common, prohibiting the present research from having a large sample size at all time points and therefore only using data from time points one and two. Therefore, future research should examine these factors with a larger sample size to reach statistical power in order to better assess the association between justice system contact, self-efficacy, and sense of school belonging.

Additionally, the current study was limited in that the data gathered did not address what factors contribute to a decreased sense of school belonging. Thus, future research should examine explicitly what characteristics of the school environments (e.g., faculty-student relationships, behavioral policies and enforcement, student-student interactions) contribute to the perceived self-efficacy and sense of school belonging in Black girls through qualitative research. Through qualitative research, participants could explicitly elaborate on how the school environment contributes to their feelings of school belonging and perceived self-efficacy and why these aspects contribute to these sentiments. Through the elaborative nature of qualitative research, researchers would have a clearer understanding of how and why social contexts like school play a significant role in child development (i.e., influencing sentiments about self). By understanding how one's context is negatively impacting their development, research-based evidence could support school policies and strategies that focus on improving the social context, rather than overemphasizing youth as inherently problematic. In doing so, policies and practices would potentially allow for a shift in how youth view the world around them and themselves in relation to the world, subsequently shifting how youth engage and navigate social spaces.

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Table 1.

Sample Demographics

Age	**N**	**%**
11	2	2.5
11.5	1	1.2
12	6	7.4
13	14	17.3
14	17	21
15	12	14.8
16	14	17.3
17	6	7.4
18	1	1.2
Year in School	**N**	**%**
6th grade	7	8.6
7th grade	11	13.6
8th grade	12	14.8
9th grade	22	27.2
10th grade	16	19.8
11th grade	10	12.3
12th grade	2	2.5

Table 2.

Self-Efficacy and School Belonging Descriptive Statistics

	Mean	SD	Range
General Self-efficacy	28.71	5.61	10-40
Psychological Sense of School Membership	3.58	0.74	1-5

The Effects of Adultification in Schools and the Juvenile Justice Systems

Kayla Perez

When adults view children as miniature adults, these ideologies influence how adults punish children. Black girls are often viewed as more mature, strong, and conscious of their actions (Morris, 2007). This phenomenon is called adultification bias. Adultification bias disproportionately affects Black girls in school as well as within the juvenile justice system. This ideology stems from racism and stereotypes society has directed toward young Black girls (Epstein et al., 2017). Historically, Black children were treated as chattel and forced to work as young as two years old and beaten if they showed any child-like behaviors during the time of slavery (Dumas & Nelson, 2016). Stereotypes of Black girls also developed during slavery, such as being mature, less innocent, and oversexualized.

Stereotypes of Black girls developed during this period and have carried over to current media representations, such as being mature, less innocent, and oversexualized. Three central stereotypes of Black women developed in particular, including the concepts of Mammy, Jezebel, and Sapphire. According to West (1995), a Mammy was an image of an overweight Black woman but was a nurturer. Mammy's represented an asexual being, a low-income Black woman that nurtured the family she worked for (West, 1995). The term Jezebel developed during slavery when white slave owners had complete control over Black women's bodies, including their sexuality and reproduction (West, 1995). Jezebel represented a seductive and hypersexual Black woman (West, 1995).
In the 1940's the media developed another stereotypical image of a Black woman as loud and assertive; the Sapphire (West, 1995). These three stereotypes of Black women still exist across media today, and Black girls are still being affected by these images. Adults, including teachers in school settings, may generalize these stereotypical images and interpret Black girls' behaviors as not aligning with the white femininity and subsequently respond more harshly to these students' identities (Epstein et al., 2017), thus feeding into adultification bias.

Adultification in School Settings

Adultification can be defined in two ways: children are put in situations and must act mature, and another is how adults view children due to stereotypes (Epstein et al., 2017). Adultification can take place in the education system, where all children should be protected. Instead, teachers have a predisposed thought of their Black female students. Due to this, Black girls have a different experience in school compared to their peers. Black girls experience an increase in school punishments such as detentions, expulsions, suspensions and are put on behavior conduct lists. One student found that fourteen percent of black girls were suspended at higher rates than other girls and boys (Watson, 2016). Black girls make up for one out of three school-related arrests and only makeup 26 percent of the school population nationwide (Watson, 2016). The rate of school punishments may be influenced by adultification bias by the staff at the school. In research from Morris (2007), teachers described Black girls as "loudies" and not ladies. Black girls who were outspoken were viewed as being assertive and controlling. Teachers perceived black girls' behaviors, such as being loud and standing up for themselves, as less feminine because their behaviors do not align with the basic feminine traits such as passive and submissive (Blake et al., 2010). Children may be loud and defensive in school. Still, teachers view it as a race issue for Black girls as the stereotype of being loud when outspoken aligns with negative behavior. When Black girls voice their opinions in school, they are deemed as trouble, loud, and impolite (Morris, 2007).

Morris (2007) found that teachers also viewed Black girls as being sexually mature. A study done by Epstein et al. (2017) found that Black girls were twice as likely as their white female peers to have a dress code infraction. Dress code infractions include wearing scandalous outfits, but if the teachers have this predisposed thought on Black girls being sexually mature, they will view their outfits as indecent. Teachers may be using their bias to write referrals on Black girls, which are then used as a tool to punish Black girls based on stereotypes.

Other policies, like zero-tolerance in the educational system, are also significantly affecting Black girls. The zero-tolerance policy is a school discipline that removes students from school for dress code violations to behavior misconduct (Hines-Datiri & Carter Andrews, 2017). The zero-tolerance policy is pushing Black girls out of school. Pushing Black girls out of school leads to an increase in dropout rates, which can negatively influence their life after high school, such as unemployment, lower wages, and incarceration (Parks et al., 2016). Further, this adultification of Black girls can have other long-lasting effects, including lower self-esteem and long-term outcomes.

Adultification in the Juvenile Justice System

Adultification also takes place in the courthouse, which creates an increase in courtroom punishments for Black girls. Prosecutors and judges have a stereotype of young Black girls, as consciously knowing as an adult. Probation officers felt that Black girls who had a less lady-like personality wanted to be treated like their male counterparts (Moore & Padavic, 2010). In research from Moore and Padavic (2010) found that officers would arrest juvenile-age females for aggressive behaviors, which represent stereotypical masculine behaviors rather than females who portrayed a more stereotypical feminine behavior. Due to this bias on Black girls, they receive harsher punishments compared to their peers. Black girls are 20% more likely than white girls to be punished in the courtroom, only three out of ten cases get dropped and three times more likely to be removed from their homes (Epstein et al., 2017). These astounding findings show how Black girls' age and mental capability are ignored in the courtroom and their skin color is the reason for being over punished.

Theoretical Frameworks

Multiple theories have emerged that attempt to assist in conceptualizing various areas of research within the realm of race and adultification. For the purpose of this study, three theories will serve as the guide for research: critical race theory, Black feminine theory, and intersectionality theory. These theories encompass the way in which race and gender are rooted in adultification bias for Black girls.

Critical Race Theory

Throughout history, it has been documented how the education system was not created to include minorities. In 1954, Brown v. Board of Education ended racial segregation in schools but today schools located in large cities tend to not be racially diverse (Evans-Winters & Esposito, 2010). The issue is not Black children not being in school with white children but white parents not wanting to support low-income or middle-class schools with Black students (Evans-Winters & Esposito, 2010).

Critical race theory (CRT) considers the relationship between Black girls and the school systems. This theory posits that the education system is built on racist ideologies and how laws and higher systems perpetuate these ideologies, thus underserving Black girls. According to Ladson-Billings and Tate (1995), CRT addresses individuals who are being affected by racism and racist systems. CRT reveals how laws and policies were made to benefit white people. Ladson-Billings and Tate proposed that the CRT can be used to examine racism in education (Dixson & Rousseau, 2005). CRT can help give Black girls who have been historically inferior, an opportunity to voice their oppression. While examining racism in education, CRT may expose how Blackness is viewed as the issue instead of racism (Annamma et al., 2016). CRT helps show how racism is embedded in the history of the education system which creates an environment for to take place adultification.

Black Feminist Theory

Black Feminist theory demonstrates the experiences Black girls face and how being strong and outspoken is not viewed as feminine. This theory would help explain how society's stereotypes of Black girls such as the Mammy, Sapphire and Jezebel images are still affecting Black girls today. It is important to view the inequalities Black girls face from their viewpoint, so their oppression is properly acknowledged. Black girl's femininity does not fit into society's white femineity, so it is not viewed the same. The middle-class white girl feminine characteristic is being submissive and calm. It is very important when black women stand up for themselves because they won't internalize their oppression (Collins, 1986). In a society where Black girls are underrepresented in research or ignored in school it is important to have their voices heard.

Intersectionality Theory

Intersectionality theory responds to the relationship of gender, race, and class inequalities as one

framework; how does all three contribute to one's injustice (Morris, 2007). Intersectionality theory helps explain how racism and sexism intersect to create the experience of double discrimination for Black girls. This double discrimination contributes to why Black girls are being adultified in education and juvenile justice systems.

The Current Study

Studies on race, gender, and the effects of adultification speak to the impact of racism and stereotypes that Black girls face, developed during the times of slavery, and are still affecting Black girls today. As critical race theory is a debate in the education system, Black girls are underrepresented, and policymakers have a predetermined ideology of Black girls' interventions. Awareness is needed to help save and regain the childhoods of Black girls. If Black girls cannot have an innocent childhood, this can harm their self-worth and create barriers for them in the future. This study aims to contribute to literature regarding the effects of adultification in school and the juvenile justice system. This will grant further guidance to policyholders and professionals in the education system that stereotypes can be a leading cause in the over the punishment of young Black girls.

Throughout this study, three different research questions will be examined. The first research question is "How does adultification differ between white girls and Black girls?" The second research question is, "To what degree does adultification predict school punishments among Black girls?" It is predicted that Black girls will have a higher score of adultification, which will predict an increase in school punishment such as detentions, expulsions, suspensions, and behavior conduct list. The third question is "Do high levels of adultification relate to Black girls' involvement in the juvenile justice system?" It is expected that Black girls with high adultification scores will also experience arrests in school. Overall, the study will focus on the effects of adultification in schools and the juvenile justice systems on Black girls.

Method

Participants

Six hundred Black and white girls from New York City will participate in this study in exchange for $20 for each survey completed. Participants would take the survey in the spring at the end of their academic school year. The longitudinal study would take place from 6th grade (11 years old) to 12th grade (17 years old), with a total of six years during which the participants will be examined. Data from Juvenile Arrests (Under 16 Years) (2018) showed two boroughs (e.g., Brooklyn, the Bronx) with the highest incarceration rates among 16-year-olds. Ten schools in each borough will be chosen, with 300 Black girl students recruited from each school.

Measures

The three main factors that will be examined in this study are high school punishment, the juvenile justice system and adultification.

High School Punishment

High school punishment will be measured through the number of detentions given to participating students, expulsion, suspension, and being on a behavior conduct list. This data would be collected with four numeric questions at the end of the survey; responses would range from 1 to more than 10. These items are, "How many times have you received detention?", "How many times have you been suspended?", "How many times have you been on a behavior conduct list?" and "How many times have you been expelled from school?".

Juvenile Justice System

The juvenile justice system punishment will be measured by the number of times participants are arrested in school. The data will be collected through a closed question at the end of the survey. Example items would include, "Have you ever been arrested in school?" Students will circle either yes or no to answer this question.

Adultification Scale

Adultification will be measured through an innocence scale that includes seven questions utilizing the study design of Goff et al.'s (2014) innocence scale. This 7-item subscale includes statements about being oversexualized, morality, and how people perceive the participants. Items will consist of, "People perceive me as dangerous," "People perceive me as over-sexualized," "People perceive me as having a better sense from right from wrong," "People view me as being older than I really am," "People view me differently than me peers," "People view my clothes as inappropriate because of my body type," and "People perceive me as innocent when I make a mistake." Students will

Students will rate each item 1 (strongly disagree) to 5 (strongly agree).

Procedure

An email will be sent to the principals to recruit schools for participation, stating that the Bronx and Brooklyn have a high arrest rate among 16-year-olds (Juvenile Arrests (Under 16 Years), 2018). The email will say that researchers would like to better understand girls' experience in school, which will help explain why arrests are so high. Principles will then send out an email to school counselors or send their contact information to researchers. Consent forms will be sent out to parents when they are asked to fill out medical and media forms at the beginning of the semester. School counselors will be recommended to have their students take their survey on Qualtrics individually when they have their one-on-one sessions. The surveys will include seven questions on adultification, one question on arrests, and four questions on school punishment. When the survey is complete, each participant will receive a $20 dollar incentive. To scale the answers from the participants, we would use the adultification theory to see if they were victims of adultification. Participants would be followed from 6th grade to 12th grade and would be asked to take the survey, including the same number of questions and the same procedure.

Expected Analysis

To examine the research question, "How does adultification differ between white girls and black girls?" independent samples t-test will be used. Responses from the adultification scale would be calculated from each participant, and the differences among races would be compared. To examine the second research question, "To what degree does adultification predict school punishments among black girls?" a linear regression will be used, with adultification (measured at time point 1 or 6th grade) as the independent variable, and school punishment (measured over four years of high school) as the dependent variable among black girls. The longitudinal study would help show that a high adultification score in 6th grade will predict an increase in school punishment in high school. The last research question, "Do high levels of adultification relate to Black girls' involvement in the juvenile justice system?" will be examined with an independent samples t-test. When participants take the survey at the end of their 6th-grade year, if their adultification score is high; it will predict an increase in-school arrests. Adultification in 6th grade will be examined among Black girls across two groups: No high school arrests and high school arrests.

Expected Results

The expected results of the independent samples t-test examining if there is a difference in adultification and race is expected to show that Black girls would experience higher levels of adultification than white girls. Seeing that black girls would experience high levels of adultification, a linear regression would indicate that high levels of adultification in 6th grade predict school punishments among Black girls in high school. Lastly, an independent samples t-test would show Black girls who have a high adultification score, will have an increase in school arrests.

Discussion

The present study will predict that high levels of adultification relate to an increase in school punishments. A control group of white girls will be compared to Black girls' differences in their adultification score. White girls would experience less adultification bias which will result in a different school experience. Unlike white girls, Black girls would experience higher levels of school punishments and in-school arrests. The importance of this study should help lawmakers and professionals in the education system realize how Black girls are adultified by adults in their life and those adults over-punish them. This expectation is supported by burgeoning literature around adultification.

Previous research has found similar results (Epstein et al., 2017), where Black girls received a higher number of school infractions. School infractions such as dress code violations and disruptive behavior at higher rates than white girls. Black girls were also prosecuted at higher rates than their peers, three times more likely to be removed from their home and despite their age and seriousness of the offense, they were punished more severely (Epstein et al., 2017).

Strengths of this study would include comparing Black and white. Because Black girls are underrepresented, this study is devoted to helping bring awareness to the issues they experience. Showing how adultification affects one race over the other can help show policymakers and

professionals the issue Black girls face in society. This study is also a longitudinal study, which will help show the effects of adultification over time.

It should be noted that the present study can be limited due to participants not informing their guardians on how many times they have been punished in school. Participants may also feel that school faculty may view their results and be punished for it or viewed differently. A second limitation will be the length of the study; since the study will take place from 6th-grade to 12th-grade, the number of participants may drop. Lastly, participants who take the survey at the end of their academic school year may forget how many times they were punished in school.

Future studies should examine stereotypes and how it affects young Black women at 18 years and older by examining admissions and professionals that work in a University. The implications from this future study will show how Black girls have a different college experience compared to their peers. Using college employees would expose how teachers and people who work in higher academia offices have stereotypes of Black girls and how it affects their acceptance or college experiences.

More research needs to be done on Black girls and the hardships they face in society, so laws and interventions are created to help create a more welcoming experience. Overall, adultification bias is serious. If policymakers and teachers have stereotypes of Black girls, they are supposed to protect and teach; their bias will influence how they view and treat the child. Black girls need to be viewed as children and not have their childhood taken from them.

To address adultification, more teacher training needs to be done. Teacher training should include the false stereotypes Black girls have in society, cultural humility, the dangers of racism, and how racism looks in the classroom. Critical race theory is currently a contentious debate, but it needs to be taught in schools to prevent adultification bias. Not letting Black girls be authentically themselves harms their development because they may think that something is wrong with them and can develop a hatred for themselves or low self-esteem. Low self-esteem can affect their motivation and focus on elevating in life because they are too weak to move forward. Black girls need to learn about their history to become confident and identify society's stereotypes and not internalize them.

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Mindful Education Lab

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Housed within the Metropolitan Center for Research on Equity and the Transformation of Schools, the Mindful Education Lab, directed by Dr. Joshua Aronson, oversees two parallel but connected programs - research and teacher training. Our Mindful Research Lab looks at the psychological and neurological effects of mindfulness on student learning, teacher effectiveness, and school and classroom climate.

This work, in turn, informs our Mindful Teacher Program (MTP), which offers professional development to schools by training educators (teachers, principals, school staff) in techniques to improve their lives both in and out of school. We also train high school students in mindfulness as part of the College Prep Academy, which prepares urban youth for success in college.

Educational interventions developed by Aronson and colleagues have been successful in boosting student achievement, well being, tests scores, and learning, and have been inducted into the Department of Education's exclusive "What Works Clearinghouse," a collection of school interventions of carefully vetted practices deemed worthy of using in America's schools.

Taming the Wandering Mind: Mindful Awareness Meditation and Adult ADHD

Makelya I. Hayes

Attention-deficit hyperactivity disorder (ADHD) is the most common learning and neurodevelopmental disorder among Americans, afflicting between 5 to 10% of children and approximately 3 to 5 % of adults (Wender & Tomb, 2017). Once considered a childhood disorder, ADHD is now estimated to continue into adulthood for 40 to 60% of those diagnosed during childhood (Volkow & Swanson, 2013). It has been estimated that as many as eight million adults have ADHD in the United States (Targum & Adler, 2014). The tendency to have a problematically wandering mind is not confined to childhood. Beyond the problems it presents for school achievement, we now know from experiential sampling studies that mind-wandering also produces unhappiness (Killingsworth & Gilbert, 2010). Still, much remains unknown about adult ADHD relative to what is known about children and adolescents.

Although adults and children may experience ADHD differently, the treatment they receive typically involves stimulant medication and may not be ideal for long-term use (Volkow & Swanson, 2013). Short-acting stimulant drugs have a higher chance of being abused, leading to addictive effects like cocaine (Kooij, 2013). Treatment practice is ineffective for long-acting and short-acting stimulant drugs because patients forget to take their medication (Kooij, 2013). Clinical results for stimulants have revealed that adjustments for dosage are necessary for maximizing symptom control while minimizing adverse effects (Volkow & Swanson, 2013). Too few randomized trials have investigated the long-term (i.e., six months or more) effects of ADHD medications (Volkow & Swanson, 2013). There seems to be a continuing need for a solution that challenges the standard of treating mental health disorders.

Mindfulness & Mindfulness-Based Interventions (MBIs)

Recent research suggests that mindfulness and other forms of mental training may provide viable alternatives or companion treatment. Rooted in Buddhism and eastern traditions and philosophy, mindfulness is defined as paying attention to the present experience without judgment. In practicing mindfulness, one seeks to change one's response to thoughts, rather than changing the content of the thoughts themselves, similar to some forms of cognitive-behavioral therapy (Househam & Solanto, 2016). In the 1970s, Jon Kabat-Zinn introduced mindfulness-based interventions (MBIs) to primarily treat stress that contributes to mental illness in adults (Househam & Solanto, 2016).

Two of the most utilized MBIs are mindfulness-based cognitive therapy (MBCT) and mindfulness-based stress reduction (MBSR). According to two recent systematic reviews, the results for both interventions showed a reduction in symptoms involving a lack of attention, executive functioning, and emotional regulation in adults (ages 18-65). More specifically, Lee and colleagues (2017) found that half of the studies examined demonstrated improvement in attention in adults. Poissant et al. (2019) reported that all the studies reviewed presented significant improvements in ADHD symptoms (i.e., inattention and hyperactivity), as well as cognitive task performance post-intervention, in which the reduction was maintained at follow-up (i.e., three to six months after the intervention concluded). Most of the participants were medicated (e.g., methylphenidate). Five out of thirteen studies included participants with comorbid disorders (i.e., anxiety disorder or symptoms, bipolar disorder, eating disorder, etc.). Another meta-analysis of eleven studies (Poissant et al., 2020) found a combined effect size [Hedge's $g = -0.591$, 95% CI = – 0.858 to – 0.324, $p < 0.0001$] that showed an improvement in ADHD symptoms. This analysis also investigated treatment outcomes of MBIs on executive functioning. Nine studies revealed improved dysexecutive problems; seven studies with comparison groups and two pre to post studies had significant improvement based on combined effect size (Poissant et al., 2020). Another recent mixed-method pilot study on MBCT for adults with ADHD exhibited a significant reduction of ADHD symptoms (i.e., inattention, hyperactive-impulsive, and executive functioning symptoms). Twenty-six percent of patients had a clinically relevant reduction in ADHD symptoms,

and none showed an increase in symptoms pre to post MBCT treatment (Janssen et al., 2020).

These results support the use of MBIs as a viable alternative or complement to medication therapy for ADHD. There is minimal research on MBSR specifically as an intervention for ADHD in adults, so the difference in its outcomes is currently unknown for that intervention. Further research needs to be conducted to determine the most effective long-term intervention for reducing ADHD symptomatology in adults. This also includes exploring the efficacy and outcome of MBIs in treating adult ADHD without comorbid diagnoses and medication.

Mindfulness Meditation

Mindfulness meditation involves intentionally bringing one's attention to the present experience (Lee et al., 2017). One feasibility study that utilized mindful awareness practice (MAP) as an intervention resulted in 78% of participants reporting a reduction in total ADHD symptoms and significant improvement in measures of attentional conflict (Zylowska et al., 2008). A different study on MAP presented that MAP-induced effects produced large effect sizes, resulting in improved affective ratings, quality of life, and attentional performance of adults with ADHD (Bueno et al., 2015). In a study described as a pilot trial, Mitchell et al. (2017) found that treatment with MAPs was positively feasible and acceptable. Large effect sizes showed improvement in self-reported and clinician-rated ADHD and executive functioning symptoms [Cohen's d = 1.45, 2.67, and 1.55, respectively], and self-reported emotion dysregulation for the treatment versus the waitlist group [Cohen's d = 1.63]. One review on mindfulness meditation training for ADHD in adulthood agreed that more research needs to be conducted on mindfulness meditation and its outcomes on emotional regulation. Notably, future research needs to be dedicated to more extensive randomized controlled trials that use mindfulness meditation training to address not only ADHD treatment outcomes but relevant initial findings and limitations (Mitchell et al., 2015). It is also important that future ADHD studies expand sample diversity to address generalization and modify mindfulness meditation interventions to focus on common concerns of adult ADHD in clinical practices and gaps in the literature (Mitchell et al., 2015). This is especially true for women, people of color, queer-identifying people, and older adults. These initial findings and future directions will provide expanded treatment data that fully represent adults with ADHD symptoms and promote the normalization of non-pharmacological treatment.

The Current Study

In the proposed study, we will test the hypothesis that routine meditation will reduce ADHD symptoms and improve feelings of well-being in a sample of college students. Specifically, we will examine three primary symptoms—attention deficiency (or inattention), emotional dysregulation, and executive dysfunction. This study has implications for non-clinical settings and individual self-care for adults who are undiagnosed yet struggle with symptoms of ADHD.

Methods

Participants

One hundred and thirty undergraduate students between 18 and 27 will be recruited from colleges and universities with large urban populations through word of mouth and social media. The study will be advertised in large introductory classes on college campuses. Recruitment will focus on students with little to no experience but a desire to learn and practice regular meditation. Consent to advertise and conduct the study will go through college, and university Deans, Department Chairs, and faculty of psychology departments. Informed consent will be obtained from all participants.

Study Design

A two-group design will be conducted, in which participants will be randomly assigned to either an experimental group or an active control group. The experimental group will receive lessons in meditation in the form of mindfulness meditation training (MMT) to help them establish a regular practice. The control group will be provided with study skills training and support for practical application, and study skills training will be implemented through organization and skills training (OST). The study will look at students' academic performance throughout an 8-week intervention, using self-reported grades, as well as self-reports of severity and frequency of symptoms associated with ADHD. After participants sign the consent form, they will be randomly assigned to either the MMT or OST group.

Mindfulness Meditation Training

The proposed study will deliver MMT by instructing

participants in three well-known meditation techniques: mantra meditation, mindful breathing (breath-focused) meditation, and guided meditation. A certified instructor will lead the training from **The Mindfulness Center.** Participants will receive an individual meditation lesson and be taught how to use the Insight Timer app to access guided meditations and track their at-home sessions. Each participant will choose (according to their preference) one of the three forms of meditation they learn and then start an individual at-home meditation practice involving two five-minute sessions every day during week one. Participants will be asked to increase the length of each session each subsequent week, according to their comfort, until they are meditating for 20 minutes twice a day.

MMT participants will also participate in group meditations twice a week. The format of the sessions will open with a short meditation, followed by a group discussion, a lesson and practice of mind-body exercises, a review of the week's at-home practice, and close with a sitting meditation.

For at-home practice, the Insight Timer will be utilized to record their sessions. Participants will receive a text message reminder or push notification asking them for their meditation practice statistics from the app. This will determine the frequency of meditation and change in the practice over time. Participants will also be asked to journal their experiences at the beginning and end of the week to track any changes in their symptoms and overall well-being.

Organization and Skills Training (OST)

Organization and study skills training (OST) has been implemented in pilot trials as an intervention for ADHD in the past few years. OST usually includes lessons and practice in time management, planning, and organization skills (Langberg et al., 2008). Based on past research, OST seems to be tailored to college students because organization skills are prevalent among this population (Hartung et al., 2020; LaCount et al., 2015; Langberg et al., 2008). This particular study will use LaCount et al.'s (2015) organization, time management, and planning skills training (OTMP) intervention, an adapted OST for college students. Its treatment protocol will be adapted to fit with the current study. For the first two weeks, the sessions will be psychoeducational, covering the history, etiology, and characteristics of ADHD and how it affects college students. The following two weeks will focus on time awareness and scheduling, where participants will learn about task lists, calendar systems, and timepieces to improve their time management (LaCount et al., 2015). Weeks five and six will consist of task and motivation management. Participants will receive lessons and practice strategies for managing tasks and increasing motivation (LaCount et al., 2015). The final two weeks will focus on implementing an organizational system as participants receive guidance and strategies for prioritizing organization and schedule planning (LaCount et al., 2015). Homework assignments will be based on the overall focus of the week.

Measures

ADHD Symptoms

The Adult ADHD Self-Report Scale (ASRS) is an 18-item ADHD symptoms checklist composed of questions from the World Health Organization and the Workgroup on Adult ADHD. A sample item includes, "How often do you misplace or have difficulty finding things at home or at work?" (Kessler, et al., 2005). Response categories included (0) = never, rarely, sometimes, often, very often. Scores for higher responses will vary with each question.

Conners' Adult ADHD Rating Scale– Self-Report: Short Version (CAARS–S:S) measures the presence and severity of ADHD symptoms in adults 18 years and older. Response categories use a four-point scale: (0) = Not at all, Never; (1) = Just a little, Once in a while; (2) = Pretty much, Often; and (3) = Very much, Very frequently. A sample item includes, "I'm absent-minded in daily activities" (Conners et al., 1999).

Conners' Continuous Performance Test, Third Edition (Conners CPT 3) provides a task-oriented computer assessment in areas of inattentiveness, impulsivity, sustained attention, and vigilance in individuals eight years and older. Participants are asked to press the spacebar when any letter, except "X," appears on the computer screen. This measure will examine attention-related symptoms.

The Behavior Rating Inventory of Executive Function-Adult (BRIEF-A) is a 75-item scale that assesses adult executive functioning and self-regulation. Aspects of executive functioning include inhibition, self-monitoring, planning/organizing, shifting, initiating, task monitoring, emotional control, working memory, and organization of materials. Its response categories are on a three-point scale: (0) = Never, (1) = Sometimes, and (2)

outbursts" (Roth et al., 2005).

The Difficulties in Emotion Regulation Scale (DERS) is a 36-item scale that measures six aspects of emotion regulation. This scale's response categories include (1) = Almost never [0-10%], (2) = Sometimes [11-35%], (3) = About half the time [36-65%], (4) = Most of the time [66-90%], and (5) = Almost always [91-100%]. Each item score contributes to one or another of the following subscales: awareness, clarity, goals, impulse, nonacceptance, and strategies. A sample item from the DERS is, "When I'm upset, I can still get things done" (Gratz & Roemer, 2004).

Altogether, the measurements will assess the presence and severity of the ADHD symptoms of executive dysfunction, emotion dysregulation, and inattention. All measurements have been used in previous studies on ADHD and were proven to be reliable and valid.

Mindfulness Skills

Mindfulness skills will be measured with the Mindful Attention Awareness Scale (MAAS), a 15-item scale that assesses open or receptive awareness and attention to experiences taking place in the present moment. Items' response categories are scored on a one to six Likert scale where (1) = Almost Always; (2) = Very Frequently; (3) = Somewhat Frequently; (4) = Somewhat Infrequently; (5) = Very Infrequently; and (6) = Almost Never. A sample item includes, "It seems I am 'running on automatic,' without much awareness of what I'm doing" (Brown & Ryan, 2003).

Procedure

Potential participants will receive a questionnaire (i.e., ASRS) on ADHD symptoms and be asked to indicate whether they desire to reduce their ADHD symptoms. Interested participants will be interviewed at the beginning of the study to see if they have any personal goals (other than ADHD symptom reduction) to track over time. These goals will serve as a motivator for practicing meditation and mindful awareness, increasing the potential reduction of symptoms. Questions in the interview will cover the participant's daily/normal routine, habits, short-term and long-term goals, and values and priorities. Interviews will be conducted by the study's leading researchers in-person or virtually. All participants will complete the measurements of symptoms being investigated pre-intervention (CAARS–S:S, Conners CPT 3, BRIEF-A, DERS, and MAAS). In addition, undergraduate students will have check-ins to report their grades at the beginning and end of the semester. Students will be asked to bring a report (paper signed by the advisor) of their grades from their advisor during their check-in meeting. The interview and measurements will be administered a week before the eight-week treatment.

Participants will be randomly assigned to the experimental or control group. The experimental group will engage in a 60 to 90-minute meditation workshop twice a week, and those in the control group will engage in a 60 to 90-minute study skills workshop twice a week. They will be asked to complete homework (i.e., at-home practice) based on their assigned group. The control group may include practicing different study/organization skills (i.e., task prioritization, daily or weekly scheduling) and utilizing study skills resources. Post-intervention, participants will complete the measurements to evaluate changes in their outcomes. Interviews post-intervention will also be conducted to elaborate on any changes in the symptoms and goals they described pre-intervention. All reports, interviews, and assessments will be kept confidential, identified only by a code number, be in a secure location, and only used to assess participant symptoms and academic performance change.

Planned Analysis

A t-test performed on baseline measures will determine significant differences between the groups prior to the experimental treatment (though random assignment should minimize this likelihood). Difference scores will be computed on measures of ADHD symptoms taken both before and after receiving treatment. A 2 x 2 mixed-design ANOVA will be conducted on each outcome measure to determine if there is a significant interaction between the time factor (i.e., before vs. after) and the treatment factor (i.e., meditation vs. study skills), which would demonstrate whether one group improved significantly more than the other. Separate follow-up tests will determine whether each group improved significantly overtime or not.

Results

We expect that practicing mindfulness meditation regularly will result in fewer ADHD symptoms after eight weeks. The expectation is that before the intervention, ADHD symptoms will be presented at a relatively high rate. It is expected that the meditation intervention will improve the following

symptoms significantly pre to post-treatment: executive dysfunction, attention deficiency, and emotional dysregulation. However, we also expect varying levels of compliance with regular daily meditation, leading to a correlation between the amount of meditation practiced and the reduction in ADHD symptoms. As practicing meditation increases, ADHD presenting symptoms will decrease. Similarly, we expect that there will be a positive correlation between the amount of meditation practice and an increase in mindfulness (as measured by the MAAS). We will use mediation analysis to test whether the correlation between the amount of practice and reduction in symptoms is mediated by increases in mindfulness.

More specifically, meditation participants are predicted to exhibit greater improvement and outperform the Conners CPT 3 compared with study skills participants post-treatment. For BRIEF-A, it is expected that those in the experimental group will have a significant increase, specifically planning/organizing, initiating, task monitoring, emotional control, and working memory. This increase will be significantly greater than any improvement in the control group. Moreover, meditation participants will improve in the DERS subscales of awareness, strategies, and impulse more than the control participants. Changes in MAAS scores will reveal that meditation participants increased in mindful awareness practice and skills compared to the control group from pre- to post-treatment.

In addition, participants will understand mindful awareness practices and meditation as a form of managing their symptoms and navigating daily life, as evidenced by the post-intervention interviews. This understanding will be supported by the observed symptom outcome changes and the improved academic performance of the undergraduate students from the beginning to the end of treatment.

Discussion

The primary objective of this study is to evaluate mindful awareness meditation as an intervention for reducing the symptoms of ADHD. These findings could be attributable to the mindfulness meditation training components being focused on increasing present-attentive awareness that is non-judgmental. Mindful awareness meditation is usually referred to as mental training. Meditation strengthens cognitive and spatial awareness due to focusing attention on one thing and utilizing it as a foundation. This includes being more aware and focused on one's emotions, which promotes higher levels of openness and acceptance. The ability to detach from cognitions and emotions contributes to an improvement in emotional regulation and attention. This study is supported by prior research on mindful awareness meditation and ADHD, where ADHD symptoms were significantly reduced (Bueno et al., 2015; Lee et al., 2017; Mitchell et al., 2017; Zylowska et al., 2008). Past neuroimaging studies indicate that mindfulness meditation generates neuroplastic changes in the brain areas responsible for attention functioning in ADHD (Mitchell et al., 2015). The expected findings and previous research suggest an improvement in cognitive neural connections and regulated emotional reactions due to meditation and mindfulness training for individuals with ADHD.

Limitations

Even though the study's findings have non-clinical and scientific significance, their associated limitations and strengths imply that future research is needed. First, the study's sample will only include participants from a college student population. Accordingly, these college students may not fully represent an adult population and cannot be generalized outside of this population. Because the study will be eight weeks, participants may drop out before completion. These drop-outs may not be random and therefore compromise the original random assignment. Participants may also struggle with maintaining a regular meditation practice. This lack of compliance can increase the potential of reporting bias, affecting the results of the study. Despite these limitations, this study had a diverse non-clinical sample because of the population provided from college campuses. The non-clinical heterogeneity of the sample normalizes and humanizes the overall experience of having ADHD and/or its symptoms. The meditation method each person chooses can be an important variable and reveal differences in the strength of each practice. The measurements used are valid and reliable and often utilized as measurements for ADHD and its symptoms.

Directions for Future Research

Future research can extend the findings of this study by investigating different meditation methods and different incentives for regular practice. The incorporation of methods to support forming a meditation habit should be considered to evaluate symptom reduction. Future studies should focus on sampling by age groups to investigate any differences

in mindful awareness and symptom reduction based on lifespan development. Diverse samples would provide results that are fully representative and can be generalized to the adult population. Those with a variety of symptom comorbidities should also be included to determine whether meditation can be applied and adapted to treat other disorders. Additional outcome variables associated with ADHD symptoms should also be systematically assessed in future studies.

Conclusion

Mind-wandering is normal. Naturally, humans are thinking about the past or future and rarely about the present experience. However, this thinking pattern is not optimal for achievement, happiness, or good quality of life. Individuals with ADHD are prone to inattention and are often treated with stimulants that can have long-term negative effects. This study suggests that adults do not have to go through a diagnostic evaluation to receive treatment. More specifically, organization and study skills for young adults with ADHD symptoms are not enough; cognitive changes can produce more significant outcomes. The trend of meditation research has proven to alleviate daily stressors and the persistence of ADHD symptoms. Meditation presents the possibility of receiving help and support through mindfulness practices and natural methods for individuals who experience subclinical levels of ADHD symptoms. Mindfulness appears to be a viable alternative that can elevate mood, improve focus, and performance, without the negative side effects of medication.

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Mindfulness Meditation and Aggression Emotion Regulation in Adolescents

Justine Mariscal

Aggression is an innate psychological response to frustration mediated by an individual's environment in the process of growing up (Anderson & Bushman, 2002). Aggression is most likely during adolescence, which is marked by rapid developmental changes and intensely felt stressors (e.g., academic and social pressure at school), and underdeveloped self-control (Bluth et al., 2015; Steinberg, 2014; Tao et al., 2021).

Most commonly defined as behavior intended to harm oneself or others, aggression can take many forms (Tao et al., 2021). Direct aggression refers to easily identified aggressive behaviors, such as physical aggression (e.g., hitting, pushing, or kicking others) and verbal aggression (e.g., name-calling, insults, or put-downs). Indirect aggression is described as more covert behavior targeted at damaging social relations, such as relational or social aggression such as rejection, gossiping, and spreading rumors (Tao et al., 2021). Both forms of aggression have been shown to harm victims and perpetrators alike (Archer & Coyne, 2005). Exhibiting direct aggression is associated with a deviant lifestyle and the high risk of delinquent behavior (Jennings et al., 2012; Nagin & Tremblay, 1999). Indirect aggression harms psychological well-being by causing interpersonal stress and internalizing symptoms such as anxiety, depression, and social withdrawal (Björkqvist, 1994; Card et al., 2008).

Emotion Regulation in Adolescence

Emotion regulation is described as the ability to manage emotions; it involves strategies to manage distress to meet demands or achieve goals (e.g., those involved in learning) and is increasingly viewed by contemporary researchers as a foundation for well-being, academic achievement, and positive adjustment throughout life (Campos et al., 2004; Eisenberg et al., 2010). In accordance with behavioral theory, aggression is a result of the attempt to regulate or express difficult emotions (Tao et al., 2021). Students who exhibit aggressive behavior have shown a deficiency in emotional self-control (Franco et al., 2016). Adolescent aggression has been associated with the risk factor of impulsivity (Orue et al., 2016), maladaptive or risky behaviors, (e.g., drug use and/or sexual promiscuity) (Paydary et al., 2016), mental disorders (e.g., depression and/anxiety) and poor academic results (Fix & Fix, 2013; Nelson et al., 2015).

Mindfulness Meditation

Originating from Eastern contemplative traditions, (i.e., Buddhist philosophy) (Oberle et. al., 2012; Zhang & Zhang, 2021), mindfulness is described as the awareness and nonjudgmental acceptance by a clear, calm mind of one's moment-to-moment experience, without either pursuing the experience or pushing it away (Singh et. al., 2007). Mindfulness meditation has become increasingly popular in Western psychology as a new way to reduce stress and promote mental well-being in children and adults (Oberle et al., 2012). Numerous studies show that mindfulness-based interventions can produce beneficial outcomes in emotion regulation, including decreased anxiety (Amutio et al., 2015), depression (Condon et al., 2013), and anger expression reduction (Fix & Fix, 2013; Gouda et al., 2016; Zenner et al., 2014). Mindfulness training has also been shown to improve engagement, attention, self-control, respect for others, and so on in the classrooms of lower-income minority elementary school students, some with effects lasting up to seven weeks post-intervention (Black & Fernando, 2014).

Mindfulness and Aggression in Adolescents

Recent research suggests mindfulness can reduce aggression in children and adolescents. The reductions in aggression strengthened adolescents' ability to control their emotions when faced with internal and external triggers (Tao et al., 2021; Zhang & Zhang 2021). Research on mindfulness interventions demonstrate significant findings in public high school students (Franco et al., 2016; Zare et al., 2016; Zhang & Zhang, 2021), preschool and elementary students (Moreno-Gomez & Cejudo, 2019; Parker et al., 2014; Suárez-García et al., 2020; Yoo et al., 2016), students with special needs (Malboeuf-Hurtubise et al., 2017), and participants

from a juvenile correction and rehabilitation center (Milani et al., 2013). However, more research needs to be done with middle school populations as adolescents enter a period of extraordinary neuroplasticity (Wilson & Conyers, 2016).

Specific Aims

Given the unique social conditions and new life stressors generated by the stark onset of the global pandemic, COVID-19, it is vital to investigate effective ways of aiding adolescents' successful development. Implementing mindfulness practices (e.g., meditation) is a practical way to achieve the desired outcome (Black & Fernando, 2014; Deplus et al., 2015; Singh et al.,2007). Given the influence that social conditions have on adolescent aggression (Oberle et al., 2012), this study aims to examine whether mindfulness can significantly reduce aggression in middle schools, and if so, through what mechanism. It is hypothesized that mindfulness will decrease aggression in middle schools by increasing students' abilities to regulate their emotions.

Methods

Participants

Participants will be seventh-grade students from middle schools throughout New York City. In collaboration with the New York Department of Education, researchers will send out an email to all public middle schools in New York City inviting them to apply to participate in a cost-free mindfulness meditation intervention as an addition to the required health education course. After receiving responses, 15 schools with high suspension rates (>30%) will be chosen to participate in the study. Researchers will work with teachers to replace a portion of the required health material with a 20-minute meditation course. Health classrooms will be randomly assigned to either be in a control group that receives only the standard health education class. In contrast, the intervention group receives the meditation course at the beginning of their health education class.

Measures

Direct Aggression

The Aggression Questionnaire--Short Form (Bryant & Smith, 2001) is a 12-item self-report questionnaire that was refined from the 29-item Aggression Questionnaire developed by Buss and Perry (1992). Four factors (Physical Aggression, = .8; Verbal Aggression, = .8; Anger, = .76; and Hostility, = .75) that have three items each are measured on a five-point Likert scale ranging from 1 = "extremely uncharacteristic of me" to 5 = "extremely characteristic of me." Participants answer questions such as, given enough provocation, I may hit another person; I have threatened people I know; I have trouble controlling my temper; and my friends say I am somewhat argumentative. High scores are associated with high levels of aggression.

Indirect Aggression

The Young Adult Social Behavior Scale (Crothers et al., 2009) measures 14-items (e.g., when I am angry with someone that person is the last person to know, I will talk to others first and I contribute to the rumor mill at school) on a 5-point Likert-type scale, ranging from 1 = "never" to 5 = "always". This self-reported measure was developed to assess relational and social aggression, along with behaviors of interpersonal maturity in adolescents and young adults. Some items (e.g., I honor my friends' need for secrets of confidentiality) will be reverse coded, and high scores will be interpreted as an indication of high levels of indirect aggression.

Peer Assessment of Aggression

Participants will take surveys that include a group of social norms questions regarding conflict behaviors. Created by Paluck et al. (2016) for a study focused on changing climates of conflict in 56 middle schools, the surveys will specifically assess participants' estimates of descriptive norms (13-items; e.g., how often do you see students… gossip and spread rumors; threatening, hitting or pushing), and prescriptive norms (12-items; e.g., how many students think it is… good to be friendly and nice; not good to threaten, hit, punch). Descriptive norms will be measured on a five-point scale ranging from 1 = "never" to 5 = "every day", while prescriptive norms will be measured using a six-point pictorial scale ranging from 1 = "almost nobody" to 6 = "almost everyone".

Emotion Regulation

The Emotion Regulation Questionnaire for Children and Adolescents (Gullone & Taffe, 2012), a revision of the Emotion Regulation Questionnaire (Gross & John, 2003) was adapted to optimize completion

of the Emotion Regulation Questionnaire (Gross & John, 2003) was adapted to optimize completion by non-adult samples (= .82).

The questionnaire consists of 10 items measuring the emotion regulation strategies of cognitive reappraisal (six items: e.g., when I want to feel happier about something, I change the way I am thinking about it) and expressive suppression (four items: e.g., I control my feelings by not showing them). The items are measured on a five-point Likert scale ranging from 1 = "strongly disagree" to 5 = "strongly agree". Higher scores indicate greater emotion regulation.

Mindfulness
The Child and Adolescent Mindfulness Measure (Greco et al., 2011) was developed to be a useful measure of mindfulness skills (present-moment awareness and non-judgmental, non-avoidant responses to thoughts and feelings) for school-aged children and adolescents. Responses to the 10-item measure are indicated with a five-point Likert scale ranging from 1 = "never true" to 5 = "always true". The internal consistency ( ) of this 10-item scale was .80. Questions include: at school, I walk from class to class without noticing what I'm doing; I push thoughts away that I don't like; it's hard for me to pay attention to only one thing at a time. Higher scores indicate lower levels of mindfulness.

Classroom Behavior
Using the Student Behavior Rubric by Kinder Associates, LLC (2007), teachers will rate classroom behaviors across four categories, including: (1) paying attention (e.g., pays attention all of the time), (2) self-control (i.e., demonstrates calmness and self-control), (3) participation in activities (e.g., physically engages and participates in all activities), and (4) caring and respect for others (e.g., shows care and respect for teachers and fellow students). Each item is ranked on a five-point Likert scale ranging from one to five, with higher scores indicating better student behavior.

Disciplinary Action
In addition to surveys and questionnaires, researchers will track aggression using school administrative records on peer conflict and aggression-related disciplinary events across the entire school year. To prevent demand effects, teachers will not be informed on the tracking of disciplinary reports.

Procedure

After receiving informed assent and consent from parents, participants will fill out a demographic questionnaire. Participants will attend their respective classes for a semester. The intervention class will be taught the meditation course by a trained mindfulness practitioner, while the control class will be taught as usual. To establish a baseline, all participants will complete the measures before the start of the intervention on day one and at the end of the study. Classroom behavior measures will also be collected and disciplinary reports will be evaluated at the end of the school year.

Mindfulness Intervention
Learning to BREATHE (L2B) is a mindfulness curriculum created for an adolescent population and uses developmentally appropriate hands-on activities and guided discussions to teach standard mindfulness skills (Broderick & Jennings, 2012). Participants are taught body scanning, awareness of thoughts, awareness of feelings, and loving-kindness practices, to increase emotion regulation and promote positive wellbeing. The curriculum is guided by six themes: Body, Reflections (thoughts), Emotions, Attention, Tenderness, and Healthy habits. Designed to be integrated into an educational setting, the teaching format can be adjusted to accommodate the needs of the school where it is being offered and includes workbooks and CDs for at-home practice. Previous studies implemented in public and private high schools have reported that the implementation of L2B led to a decrease in stress and somatic symptoms (Metz et al. 2013), as well as a decrease in depression and anxiety (Bluth et al., 2015).

Health Education Course
Both classes will receive the usual health education course required for all grades by the New York City Department of Education. Students learn the concepts and skills needed to stay healthy, including; social and emotional skills, how to prevent bullying, communication, and relationship skills, and how to avoid health risks like alcohol, tobacco, and other drugs.

Planned Analysis

Researchers will run a 2 x 2 ANOVA with one between-group factor, comparing the intervention and control groups, and one repeated measures factor, comparing pre- and post-measures for each participant. Mediation analysis will also be run to

investigate whether there is an indirect effect of mindfulness on aggression through emotion regulation.

Expected Results

It is expected that there will be an interaction between the grouping factor (i.e., meditation vs. control) and the within-subject factor (i.e., time) on the dependent variables, including aggression levels, emotion regulation abilities, and mindfulness for the seventh-grade student participants. The expectation is that an introduction to a mindfulness curriculum (L2B) will cause a change in all of the measures of aggression that is significantly larger than any change in the control group. It is also expected that the seventh-grade students will experience a greater increase in emotion regulation and mindfulness after completing the L2B course compared to the control group. Moreover, it is expected that follow-up tests will show a significant decrease in aggression levels and a significant increase in emotion regulation and mindfulness from pre- to post-measures in the intervention group. No pre-post significant differences are expected for the control group. An additional expectation is that emotion regulation will act as a mediator for mindfulness's effect on decreasing aggression.

Discussion

This study proposal is focused on the various ways mindfulness affects emotion regulation and aggression levels of seventh-grade students in New York City. In this period of life, adolescents face physical and mental changes that are often associated with difficulties in regulating emotion which often leads to aggression (Tao et al., 2021). The negative behavior linked to these changes creates a unique set of educational challenges that act as an early warning sign of school failure and potential school dropout (Liu, 2013).

The expected results of this study proposal are consistent with previous literature that has found mindfulness-based interventions to be effective in decreasing aggression levels in adolescents (Franco et al., 2016; Moreno-Gomez & Cejudo, 2019; Parker et al., 2014; Suarez-Garcia et al., 2020; Yoo et al., 2016; Zare et al., 2016; Zhang & Zhang, 2021). The expected results are also consistent with a recent finding showing that mindfulness-based intervention affects aggression through a change in the level of emotion regulation and mindfulness (Zhang & Zhang, 2021). This suggests that there may be multiple factors that contribute to increased aggression and that the implementation and promotion of mindfulness-based interventions could be a feasible way to prevent school violence.

The expected results of this proposed study have the potential to add to the literature suggesting that mindfulness interventions can be successfully taught to adolescents while having positive emotional and behavioral impacts. This is extremely relevant to current times as the current social restrictions, put in place to stop the spread of the COVID-19 virus, have negatively impacted mental health worldwide due to widespread social isolation. Current research in this area has shown that since the outbreak of COVID-19 in the U.S., adolescents have experienced significant increases in depressive symptoms and anxiety along with a significant decrease in life satisfaction (Magson et al., 2021).

Strengths, Limitations, and Future Implications

The advantage of this study is that it will further explore how mindfulness-based intervention can ameliorate adolescents' levels of mindfulness, emotion regulation, and aggression. However, there are some limitations to the current research proposal. Bias may have an effect on peer assessments and administrative reports according to race, gender, and ethnicity. The study is also limited in terms of generalizability as it only examines seventh-grade classrooms from New York City. Future research should include larger and more diverse populations, to examine which meditation interventions are most effective across a diverse population.

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U.P.K

Universal Pre-K Project

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UPK is an initiative with NYU & NYC Schools Division of Early Childhood Education to foster a research-practice partnership to support the roll-out of universal pre-kindergarten through Pre-K For All improving the quality of its programming. This partnership aims to provide quantitative & capacity-building solutions to educational problems faced by the DOE-DECE.

The Impact of Parent's Mental Health Literacy on Children's Mental Health and Wellbeing

Xia Headley

A major issue in the field of mental health today, specifically in high income English-speaking counties such as the United States, is the treatment gap for unmet needs. The treatment gap refers to the fact that despite high rates of mental health disorders among adults (ranging from 14.9% to 24.6%), only approximately 8.6% of adults are receiving mental health treatment (Brijnath et al., 2016). This has, in part, been attributed to a general lack of understanding surrounding topics of mental health and mental health disorder, as well as the stigma that may result from these misconceptions. Previous studies have found that when analyzing public opinion about mental health, especially regarding children's mental health, concerns are raised regarding the social effects of treatment, the use of psychotropic medication, and an incorrect belief linking mental health issues to violence (Pescosolido et al., 2008). The lack of information, incorrect beliefs, and underlying lack of trust surrounding topics of mental health and mental health services creates a stigma that contributes to the low rates of mental health treatment-seeking behaviors.

The area of research that focuses on the lack of knowledge about mental health, mental health disorders, and treatment stems from an older area of research referred to as health literacy (HL). Previous work first established HL as the domain related to poor or lack of understanding health or medical knowledge, which was subsequently linked to numerous poor health outcomes. HL is generally conceptualized as having four main components: 1) competency needed to help obtain and maintain health and identify illness; 2) an understanding of how and where to access, as well as how to evaluate, health information and health care; 3) an understanding of how to properly apply prescribed treatments; and 4) obtaining and applying skills related to social capital (Kutcher et al., 2016). In 1997, Jorm and his colleagues took this concept of HL and applied and adapted it to fit the field of mental health.

Mental Health Literacy

Mental health literacy (MHL) was derived from HL with the assumption that the two constructs would be functionally similar (Jorm et al., 1997; Kutcher et al., 2016; O'Connor & Casey, 2015). MHL is defined as the knowledge and beliefs about mental disorders which aid in their recognition, management, or prevention (Jorm et al., 1997). Jorm and his colleagues (1997) argue that MHL consists of six factors: 1) the ability to recognize specific disorders; 2) knowing how to seek information surrounding the topic of mental health; 3) knowledge of risk factors and causes of mental health disorders; 4) knowledge of self-treatments; 5) knowledge of professional resources; and 6) attitudes that reduce stigma and promote recognition and appropriate treatment seeking. The promotion of these factors allows individuals to have the skills necessary to obtain and maintain health wellbeing through the ability to identify potential threats to one's own mental health and the knowledge to address these threats, whether individually or through information and/or treatment-seeking.

Studies have found that improvements in MHL have been associated with improvements in health outcomes for individuals and communities, as individuals with increased MHL are more likely to see improvements in perception of mental health, knowledge about risk factors and symptoms, and treatment-seeking behavior (Brijnath et al., 2016; Kutcher et al., 2016). An individual gaining these skills not only helps them, as they are better equipped to manage their own mental health, but also allows them to help others, especially those in their care (e.g., elderly parents, children) with the management of their mental health. Therefore, interventions that aim to increase MHL on an individual and community level are critical.

Previous studies have found that MHL interventions, particularly those that are web-based, can improve mental health knowledge, attitudes or stigma, and help-seeking behaviors, when programs are structured to guide participants through a series of evidence-based steps and experiential learning activities (Brijnath et al., 2016). These activities

can include examples of situations that may cause distress where participants are asked to choose a response that represents what they believe to be the best course of action, and activities where participants are asked to recall and record the last time they felt a particular emotion. Current interventions do have limitations, namely not addressing all six factors of MHL and not accounting for the impact of culture and environmental context on perceptions and beliefs about mental health, mental health disorders, and the structure and design of mental health treatments (Brijnath et al., 2016). There have been considerable efforts in the field to create interventions that begin to address these issues, however there is still room for additional improvements.

Mental Health Wellbeing and Literacy in Youth

Commonly, if conversations about the topic of mental health and mental health disorders do occur, they begin around the time a child reaches adolescence. However, previous studies have found that some mental health disorders (e.g., impulse-control disorders) can have an age of onset as early as approximately five years old, while others (e.g., substance abuse disorders) have an age of onset around 15 years old (Kessler et al., 2005). Therefore, it is crucial to evaluate a child's mental health and discuss the topic of mental health with one's child throughout this developmental period. Also, it is argued that fostering social-emotional skills and mental health from a young age is critical to a child's learning, general health, and wellbeing, as well as the wellbeing of their families (Breitenstein et al., 2007; Frauenholtz et al., 2015). Consequently, initiating conversations with one's child about mental health from a young age is beneficial to their development and may potentially have long term effects as the child reaches adolescence. However, despite the identified benefits of having these conversations surrounding the topic of mental health, they evidently are not occurring when they should or are not occurring at all, nor do they provide the child with the necessary and correct information.

Despite the fact that approximately 2.7 million children in the United States suffer from a mental health disorder, only 50.6% of those children are receiving the treatment they need (Frauenholtz et al., 2015). While these rates are marginally better than those seen in the mental health treatment gap for adults, it still poses a major issue. A common thread and one of the underlying causes of these issues is the lack of information the adults, in this case parents, have. Parents are a central figure in a child's mental health, as their proximity and the amount of time spent with the child is optimal when trying to identify mental health concerns and children rely on their parents to maintain or provide assistance in the maintenance of their health. Due to this, parents are crucial contributors to the implementation of children's mental health wellbeing practices. However, recent studies suggest that due to low levels of MHL, many parent do not have the knowledge and/or skills to relay to their children (Frauenholtz et al., 2015). This lack of skills does not only have potentially immediate consequences for young children but can also be detrimental to children over time; likely impacting their future relationship with mental health as they are not able to gain knowledge about the topic from their parents and their parents are potentially missing signs and symptoms of mental health problems that the child might have. While the connection between parents' lack of MHL and the treatment gap in children has been identified, research has yet to investigate the potential impact of increasing parents' MHL on mental health and wellbeing outcomes for their children.

The Current Study

This proposed study aims to firstly, increase parents' MHL and then to examine the relationship between a parents' MHL and their child's mental health and wellbeing. The study will first examine the impact of the MHL intervention on parents' level of MHL. Second, it will examine the impact that different levels of parents' MHL have on children's mental health and wellbeing. The evaluation of impact will occur at three separate timepoints, in order to evaluate the baseline, the benefit of the MHL intervention's ability to equip parents with methods to talk to their children about mental health, and the long-term effects of this impact. Based on previous research, I hypothesize that the MHL intervention will increase parents' overall MHL. My second hypothesis is that parents with higher MHL will be better able to promote mental health and wellbeing in their children and therefore, children in the intervention group will have better mental health outcomes post-intervention and at the follow up.

Methods

Participants

Participants will consist of 200 parents and their 5th grade children, recruited from 10 different elementary schools in the New York City area. Two elementary schools will be randomly selected from each borough, in order to have the sample of participant be representative of the overall New York City area population. The diversity in New York City, and specifically between each of the five boroughs, allows for the ability to have participants from a range of racial and ethnic background, SES, and education levels. One school from each borough will be randomly assigned to the intervention group and the other to the control group, so that both the intervention and control group will have one school from each of the five boroughs.

Procedure

Parents from both the control group and the intervention group will be asked to complete an online questionnaire on Qualtrics, assessing their MHL and their habits around talking to their children about mental health and wellbeing at three separate timepoints: pre-intervention (T1), immediately post-intervention (T2), and at the 3-year follow up time (T3). Children will be asked to complete a separate, online questionnaire on Qualtrics, assessing their mental health and social-emotional skills, at three separate timepoints: pre-intervention (T1), post-intervention (T2), and at the 3-year follow up time (T3). The follow up will take place when the child is approximately 14 years old, as this is around the age of onset for many mental health disorders, with yearly check-ins to ensure the contact information we have collected remains up to date.

After the initial pre-intervention questionnaires are administered, parents in the intervention group will be asked to complete the Mental Health Literacy Intervention, which will be a two-month long course, with weekly one-hour modules. The modules will be covering two areas of information: 1) information and activities that aim to increase the participants' MHL; and 2) skills to talk about these topics with their children. In the first section there will be a combination of written and auditory information about mental health, mental disorders, and information- and help-seeking skills, followed by interactive activities, such as games and example situations to check for retention and understanding. In the second section participants will be shown ways to talk to young children and adolescents about mental health through a combination of written and auditory modules, followed by example situations in which they can practice putting those skills into action. For each community, the intervention team will work alongside trustworthy and knowledgeable members of that community, to ensure that information about community resources and values are accurate and useful to the participants. Parents in the control group will receive pamphlets about the importance of the parent-child relationship, including tips such as creating boundaries, unconditional love, and open dialogue.

Measures

Mental Health Literacy

Parents will be asked to complete the Mental Health Literacy Scale (MHLS; O'Connor & Casey, 2015), which is comprised of 35 items that assess six factors: 1) ability to recognize disorders (8-items; e.g., "To what extent do you think it is likely that Dysthymia is a disorder"); 2) knowledge of risk factors and causes (2-items; e.g., "To what extent do you think it is likely that in general in the United States, women are more likely to experience a mental illness of any kind compared to men"); 3) knowledge of self-treatment (2-items; e.g., "To what extent do you think it would be helpful for someone to avoid all activities or situations that made them feel anxious if they were having difficulties managing their emotions"); 4) knowledge of the professional help available (3-items; e.g., "To what extent do you think it is likely that Cognitive Behavioral Therapy [CBT] is a therapy based on challenging negative thoughts and increasing helpful behaviors"); 5) knowledge of where to seek information (4-items; e.g., "I am confident that I know where to seek information about mental illness"); and 6) attitudes that promote the recognition or appropriate help-seeking behavior (16-items; "How willing would you be to move next door to someone with a mental illness?"). Participant are asked to rate the items in the first four factors on a 4-point scale from 1 ("very unlikely/unhelpful") to 4 ("very likely/helpful") and the remaining two factors on a 5-point Likert scale from 1 ("strongly disagree/definitely unwilling") to 5 ("strongly agree/definitely willing"). The total score is evaluated by adding all of the items, taking note of the 12 reversed scored items, with a higher result indicating a higher level of MHL. Previous studies have found this measure to have good internal

consistency (= 0.873; O'Connor & Casey, 2015).

Additionally, parents will be asked to complete a self-report questionnaire about their current habits with regards to talking to their children about a variety of topics that might impact the child's mental health and wellbeing. These topics will include: 1) academics; 2) school environment and relationships with teachers and faculty; 3) relationships with peers; 4) relationships with family members; 5) relationship with others; 6) self-concept; and 7) feelings and emotions.

Mental Health in Youth

Children will be asked to complete the Beck Youth Inventory (BYI; Bose-Deakins & Floyd, 2004), which is a self-report measure that evaluates five inventories: 1) anxiety, which focuses on fearfulness, worry, and bodily reactions indicating anxiety; 2) depression, which measures sadness, negative thoughts about oneself and future, and associated bodily reactions; 3) disruptive behavior, which assesses delinquent and aggressive behaviors; 4) anger, which measures hostility, physiological over-arousal, and perception of aggression in others; and 5) self-concept, which focuses on perceptions of competency and self-worth. Each inventory comprises of 20 items that participants are asked to rate on a 4-point Likert scale from 0 ("never") to 3 ("always"). The total score of each inventory is evaluated by adding up all of the items in that inventory, with a higher score indicating a higher level of anxiety, depression, disruptive behavior, anger, and self-concept, respectively. Previous studies have found all the inventories in this measure to have good internal consistency (> 0.80; Bose-Deakins & Floyd, 2004).

Planned Analysis

I will run three one-way ANOVA tests in order to assess the validity of my hypotheses. The first ANOVA test will assess the relationship between the parents in the intervention and the control group and their level of MHL at the three time points. The second ANOVA test will assess the relationship between three levels of parent's MHL and their children's mental health and wellbeing. The levels of MHL will be created using the mean and standard deviation from the data related to the Mental Health Literacy Scale. Low MHL is defined as scores greater than one standard deviation below the mean, medium MHL being within one standard deviation of the mean, and high MHL being greater than one standard deviation above the mean. The final ANOVA test will assess the relationship between children in the intervention group and the control group and their mental health and wellbeing at the three time points. The open-ended questionnaire given to the parents will be coded and evaluated to determine the level of engagement parents are facilitating between them and their children, and how that may change over the course of the study.

Results

Aligned with findings in previous studies, it is expected that at T1, parents from both the intervention group and the control group will have similarly low levels of MHL. However, the expectation is that while the levels of MHL in the control group remain relatively stable over the course of the study, the parents in the intervention group will show an increase in MHL over the three time points. Additionally, it is expected that the answers to the open-ended questions will be reflected of these results and the results of previous studies, such that the intervention group will see a greater increase in engagement over the course of the study. In regard to the second ANOVA test, it is expected that there will be a positive association between parent MHL and child mental health and wellness, such that parents with low levels of MHL will have children with low levels of mental health and wellbeing, and those with high levels of MHL will have children with high levels of mental health and wellbeing. Finally, it is predicted that overall, the children in the intervention group will have a greater increase in mental health and wellbeing over the course of the study, proportionally to the increase of their parent's MHL. This is because it is expected that parents with a greater MHL will be more likely to recognize symptoms of mental health issues in their children and have knowledge of the resources they can use, as well as methods to maintain mental health and wellbeing in their children. It is also expected that parents in the intervention group, due to their increased engagement with their children surrounding topics of mental health, will be able to teach their children skills in order for them to be able to have these skills to manage their own mental health and wellbeing.

Discussion

The proposed study offers a step towards mending the gap between children's need for and use of mental health resources, through the lens of

parental mental health literacy. Previous studies have identified a current deficit in parents' ability to teach their children about mental health and equip them with the tools to manage their mental health due to parents' own lack of mental health literacy (Frauenholtz et al., 2015). In order to combat this trend, the anticipated results suggest that the MHL intervention proposed will have a positive effect on parents' MHL. Additionally, it is expected that there is a positive relationship between a parent's MHL and their child's mental health and wellbeing, which is aligned with the findings of previous studies. Finally, it is expected that due to this positive relationship the children in the invention group will have better mental health and wellbeing overall because their parents have taught them the skills to manage their mental health and maintain wellbeing.

This study shows the importance of mental health literacy, not only for the individual but for the family as well, specifically focusing on the parent-child relationship. The nature of the relationship between parent and child allows for a specific bond to be formed that is ideal for identifying symptoms of mental health issues and for creating dialogue about mental health. This study shows that in order to make this relationship advantageous for the parent and the child, it is imperative to equip the parent with skills that they are able to pass onto and tailor to their child.

Limitations and Future Directions

While the present study makes necessary expansions to an important body of research and knowledge, it is in some ways limited and therefore begs the continuation of further research into the topic. Firstly, the study focuses on the New York City area which, while diverse in several aspects (e.g., racial and ethnic makeup, SES, education level), is still a major urban area. Therefore, assumptions cannot be made about the study's generalizability to areas outside of a major city and must specifically consider the New York city area. Different parts of the United States have different overall views of mental health and different amounts of and access to mental health resources. Those factors alone would contribute significantly more variability to the study and therefore might have an impact on the results. Following that, the type of people that would potentially self-selectively participate in this study should be considered, especially in regard to bias and skewed results. Factors such as availability of both parent and child, ability to find care for additional children, trust in the school system, and prior notions about mental health may impact whether an individual might agree to participate in the study as well as the outcomes of the study.

However, the proposed study does make efforts to reduce this as a potential limiting factor by being web-based rather than in person, so parents can complete the modules when it is convenient for them and potentially reducing the impact of public stigma as they can complete the modules in the privacy of their own home. Finally, due to the fact that the follow up time is approximately three years in the future, there is a level of attrition that is expected, as participants might move, or confounding variables might interfere with long-term outcomes. This means potentially less diversity of participants in the long term, as well as the potential of having uneven groups, both of which would impact the validity of the result of the follow up.

The proposed study attempts to manage the gap in children's mental health service utilization, impact, and the lack of high levels of mental health literacy in parents. However, further research into the topic is still needed in order to fully address the issues at hand. In regard to the hypotheses proposed in this study, future research should aim to increase the diversity of the research to test the results' validity in a variety of populations. This may lead to the creation and testing of new MHL interventions, in order to fully encompass cultural and environmental context. Additionally, there needs to be continued and further examination of the relationship between parent and child in regard to mental health. This study proposal aims to decrease the gap between children's mental health need and treatment through the focus of increasing parents' knowledge of mental health, mental health disorders, and treatment, and making relevant resources both accessible and commonplace.

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A Longitudinal Examination of a Father Education Program's Impact on Low-Income Fathers' Involvement with Their Children.

Chineme Jane Otuonye

Over the past four decades, research has consistently shown that fathers' involvement uniquely contributes to children's development in ways that are independent of mothers (Lamb & Lewis, 2010; Tamis-LeMonda et al., 2004). Specifically, fathers' participation in quality interaction with their children has been linked to improved children's vocabulary, cognitive, and behavioral outcomes (Cano et al., 2020; Downer & Mendez, 2005; Malin et al., 2014; Mulligan, 2002; Tamis-LeMonda et al., 2004). This quality interaction comprises fathers' engagement with children in activities such as caregiving, play, library visits, and shared book reading. For example, in a semi-structured free play, Rowe, Coker, and Pan (2004) found that fathers' use of complex language elicited more linguistic and cognitive demands on children. Pancscofar and Vernon-Feagans (2006) corroborated similar findings by demonstrating that during free play, fathers' use of different word roots significantly contributed to children's expressive language.

Low-income fathers are often the focus of father involvement research as they are often at risk of low-quality parenting and interaction. For example, Bianchi and Milkie (2010), Geller, (2013), and Geller et al. (2011) suggest that low-income fathers are at risk of low-quality parenting due to barriers associated with their socioeconomic status (SES), such as economic hardship and limited position to provide for their children due to employment barriers and prior incarceration. Given that according to Bronfenbrenner's ecological theory, fathers function as positive proximal partners that help promote children's development (Pleck, 2007), the findings on low-income fathers' relationship with their children are of concern.

Father Education Programs

Fortunately, the recent acknowledgment of the important influence of fathers' involvement has led to the creation of a plethora of father education programs. Father education programs are programs designed specifically to fit the needs of fathers to encourage those who wish to be involved in child-rearing activities. According to McBride (1991), the creation of such programs for fathers may be one way to bridge the gap between the culture of fatherhood and the conduct of fathers and to increase the parenting options for fathers.

That is, education programs may be one way to establish a connection between the "societal norms and expressive symbols pertaining to fatherhood" and the "routine activities of men when they are trying to act fatherly" (LaRossa, 2007, p.88). Furthermore, education programs are deemed necessary because many fathers find themselves unprepared to assume an active role in interacting with their children (McBride, 1990). This unpreparedness can result from the lack of preparation and education of male parenting, knowledge about normal child development, and little exposure to paternal models (Kliman & Vukelich, 1985; Palkovitz, 1984; Smith & Smith, 1981).

The creation of father education programs is fortunate as it benefits explicitly economically-disadvantaged fathers and their children. This statement is supported by previous research conducted by Fagan & Iglesias, (1999) on 96 fathers and father figures recruited from Head Start sites to examine the effect of fathers' participation in an involvement intervention program. The results of this study suggested that a high dosage of father participation in the intervention increased fathers' level of involvement with their children and children's mathematics readiness scores, emphasizing the positive effect of fathers' education programs on father-child dyads. Overall, the results from this study show that father education programs are one way to promote the involvement of low-income fathers in their young children's lives, eventually bridging the gap in quality parenting and interaction caused by socioeconomic background.

Child Academic Outcomes

Given that previous research has shown the subsequent effect of father education programs on low-income children's development (mathematics readiness scores; Fagan & Iglesias, 1999), research must focus on other developmental areas that such

programs can improve. One important area of focus should be the academic outcomes of low-income children.

This area should be of importance given that research has demonstrated that children from low-income families have worse academic outcomes on average than children from middle and high-SES families (Engel et al., 2016; Reardon & Portilla, 2016). Thus, it is valuable to study whether father education programs for low-income fathers can potentially result in the reduction of the SES-based disparities in children's academic outcomes.

The Current Study

The literature on the impact of father education programs on low-income fathers and their children is limited. Research on the relationship between father involvement and father education programs often focus more on the immediate effect of such programs, with no research focus on whether these programs have long-lasting effects on father-child dyads. Thus, the current study seeks to add to works of literature on father involvement-father education programs by examining the effect of a father-education intervention program on low-income fathers' level of involvement, focusing on its subsequent impact on children's academic outcomes. But most importantly, it seeks to study the long-term effect of such a program to examine whether it is a worthy investment and method to foster father-child relationships and development in low-income communities.

Therefore, this proposed study seeks to address the following research questions: (1) Does participation in an education program designed specifically for low-income fathers increase the level of involvement a father has with his young child and, subsequently, children's academic outcomes; and (2) Does an education program for low-income fathers have a long-term effect on their paternal involvement and children's academic outcomes?

We hypothesize that participation in an education program designed specifically for low-income fathers will increase the level of fathers' participation in their children's rearing activities. Secondly, we expect that children whose fathers were highly involved in the education program will show a significant increase in academic outcomes. Lastly, post-program, we hypothesize that there will still be a significant long-term increase in paternal involvement with their children and children's academic outcomes.

Method

Participants

Six pre-kindergarten schools across New York City in low-income communities will be recruited for fathers and their children. The recruited population is expected to be racially/ethnically diverse. The target sample size for this study will be 90 fathers and their three-to-four-year-old pre-kindergarten children (45 intervention, 45 control). Fathers in this study will include biological fathers or father figures/men who actively participate in the caring, rearing, or supporting of children within the context of the family. Thus, participating fathers could include biological fathers, stepfathers, foster-fathers, uncles, grandfathers, or partners to the mother of the preschool child. Then, with the schools' permission, flyers will be given to teachers/staff to distribute to (1) parents/guardians picking up or dropping off their children at school and (2) children going home alone. Participants will be from different racial and ethnic minority groups.

These program flyers will advertise the study's nine-week father education intervention program, which will be conducted and taught by experts in father involvement training. It will also advertise the purpose of the study, the aim to improve father-child relationship, and the program's schedule. A scannable quick response (QR) code will be placed on the flyer. When scanned, this code will produce a short introductory survey that gives fathers more information about the program, their activities of interest, their willingness to participate in the study with their children, and how they can register to participate. In addition, online Ads and emails through LISTSERV (a licensed email software that transparently sends emails to its subscribers) will be used to recruit Licensed parent educators with vast knowledge in father education and involvement training. Those recruited will be qualified individuals with 10 to 15 years of experience and great recommendations from past and previous employers. Once educators are recruited, they will receive free parent education training provided by the New York State Parenting Education Partnership (NYSPEP). Recruited educators will be compensated with $1000 each for their participation in the nine-week program.

Study Design

This study will adopt a pretest-posttest randomized-controlled trial which will later be followed up longitudinally. The six recruited schools will be randomly assigned to participate in either the intervention or control groups (three in each). Participating fathers in the three treatment schools will receive the full education program, while fathers in the three control schools will be given education pamphlets with minimal information on the importance of active father-child engagement for the duration of the study.
This study will include five testing times: the original pretest, a post-test immediately, and three follow-up interviews with fathers and academic achievement tests with the children. These three follow-up interviews and tests would be administered at 2 years intervals. Fathers and children from both groups (intervention and control) would take part in the tests and interviews.

Intervention

Participants in the intervention group will participate in the father education program intervention that will meet for approximately two hours on nine consecutive Saturday nights so that working fathers can attend. This nine-week program will have three major components: (1) father involvement lectures; (2) group discussion and support; and (3) father-child recreation time.

Father involvement lectures will include 50 minutes short lectures given by the educators. These mini-lectures will consist of information on normal child development, parenting skills, the meaning of fatherhood, and the changing roles of fathers in society. Lectures will also address the different components of paternal involvement, which according to Lamb (1986), includes time spent in actual one-on-one interaction with the child, parental accessibility to the child, and parents' responsibility for the child's welfare and care.

Group discussion and support will consist of 20-minute round table talks where fathers discuss their views and beliefs on taking an active role in their children's development. For this session, fathers will be divided into two groups based on the schools their children attend. This will be done to control for size and aid intimate conversations. The purpose of this session is to create a friendly environment/atmosphere where fathers feel a sense of understanding and acceptance and, most importantly, an environment free of judgment. Educators will use encouraging, non-invasive, and non-offensive wordings to lead this section.
During the last 50 minutes, fathers will participate in the father-child recreational activities. These activities will be created to align with the activities of interest selected by fathers on the introductory survey. The recreational activities on the survey will be designed to encourage children's language and literacy, self-regulation, and critical thinking. This will include but is not limited to activities such as shared book readings, freeze tag, sports, arts and crafts, puzzles, and helping children out with their homework. In addition, fathers will be allowed to select any activities of interest as this will help them explore and discover the different ways to interact with their children.

This program will also include sign-in sheets where fathers will record their arrival and departure time, activities participated in, and lessons learned. The purpose of the sign-in sheet is to keep track of fathers actively attending and participating in the program.

Measures

A combination of self-reports, interviews and administered test data will be collected for this study. Father involvement will be assessed based on the three core components of paternal involvement identified by Lamb (1986), including interaction, accessibility, and responsibility.

Interaction and accessibility.
Interaction in this study will be defined as one-on-one engagement with the child (i.e., helping the child with homework, playing catch, or feeding the child; Lamb, 1986). Accessibility will be defined as when fathers are not directly engaged in an interaction with their children but are still available to them (i.e., reading while the child plays with toys at the parent's feet; Lamb, 1986). These two components will be measured using the Interaction Time Chart developed by Baruch and Barnett (1983). This chart will be used to measure the total amount of time fathers spent with their children on a typical workday and non-work day. Fathers would be asked about the nature and duration of the activities they engage in during these days. Hours will only include when both the parent and child are at home and awake. The research team will code the duration and nature of the activities and the final scores to be used will be based on the total time fathers spent with their children under either

an interaction or accessibility section.

Responsibility
Responsibility in this study will be defined as remembering, planning, and scheduling the child-care task (McBride, 1990). Fathers' responsibility will be measured with the Child-care Tasks Checklist created by Baruch and Barnett (1983). This checklist consists of 11 child-care tasks with questions asking the percent of time each task was done by the parents, the mother alone, and the father alone. These tasks include: taking the child to a birthday party, doctor/dentist; attending teacher conferences; supervising morning routine; buying clothes; outings (museum, park); supervising personal hygiene; staying home, or planning for care when the child is sick. Scoring for the checklist will include a 0 if mothers have primary responsibility, 1 if both parents have joint responsibility, and 2 if fathers have primary responsibility.

Follow-up Interviews for Father Involvement
At every follow-up telephone interview, fathers will be asked to describe the nature and context of their interaction with their child on a typical workday and non-workday. These interviews will also include questions on the amount of time fathers interact with children directly or are accessible to children on a typical day. Fathers will also be asked closed-ended questions on their weekly child-rearing attitude and practice. These close-ended questions will include questions such as how often fathers read to their children, help complete their assignments, and take them to doctor appointments. Fathers' responses will be graded on a five-point scale, with 0 as never and five as three or more times per week. Data from these follow-up interviews will be used to access the various levels of fathers' involvement: interaction, accessibility, and responsibility.

Children's Academic Outcomes
The Woodcock-Johnson IV- Tests of Achievement will be used to measure and monitor children's progress in four broad academic domains: written language, reading, mathematics, and academic knowledge. Trained research staff will administer this test to children in both groups at the pre-test, post-test, and follow-up sessions. As Fagan & Iglesias (1999) did, findings from this test will only be used to assess the effect of the program on children's outcomes and would not be compared to the national standard scores.

Planned Analysis

In the preliminary analysis, demographic data from both the control and intervention groups will be examined for group differences. Additionally, to examine whether group differences in pretest scores exist, a Multivariate Analysis of Variance (MANOVA) will be utilized with interaction, accessibility, responsibility, and children's academic scores as dependent variables and group membership as a factor.

A MANOVA function will be used to examine the program's effect on fathers' interaction, accessibility, and responsibility post-test scores. A multiple regression analysis will be used to investigate whether academic post-test scores of children in the intervention group are predicted based on the level of fathers' involvement in the intervention program. The growth curve modeling statistical method will be used to analyze and capture the changes in fathers' level of involvement and children's academic outcomes scores at the multiple test and follow-up time point.

Anticipated Results

Father education programs have been shown to increase the level of fathers' involvement with their children and, subsequently, their children's developmental outcome (Fagan & Iglesias, 1999; McBride, 1990). Therefore, it is expected that an education program designed specifically for low-income fathers will increase their level of involvement in their children's rearing activities. It is expected that compared to children in the control group, intervention group children will show an increase in their academic outcomes (e.g., writing, reading, and mathematical skills). Additionally, it is expected that in the long-term follow-up study, intervention group fathers will show a more sustained increase in paternal involvement with their children than fathers in the control group. Lastly, it is expected that in the long-term follow-up study, intervention group children will show a sustained increase in their academic outcomes, compared to children in the control group. Overall, it is expected that fathers who were highly involved in the program (i.e., attending five to nine sessions) will show the highest level of involvement with their children and that their children will have a higher score in their academic outcomes.

Discussion

The proposed study will contribute to the existing literature on father-child relationships and parenting education programs as it examines the long-term effect of a father education program on their involvement with their children as well as their children's academic outcomes. By focusing on the longitudinal effects of a father education program, this study adds to existing studies highlighting the importance and need for creating education programs designed specifically for fathers (Fagan & Iglesias, 1999; McBride, 1990). In addition, the anticipated results of this study shed light on the fact that father education programs may have the potential to improve fathers' long-term involvement and engagement with their children and, subsequently, the academic outcomes of these children. Additionally, the proposed study will further our understanding of whether father education programs that increase father involvement may be a worthy investment to reduce income-based disparities in children's academic outcomes and subsequently other developmental areas.

Potential limitations

Though the present study will expand our knowledge on the long-term implication of father education programs for father-child dyads, it is still important to acknowledge its limitations. First, since this study requires a long-term commitment, we expect that father-child attrition rates may be an issue. This attrition could happen as a result of changes in residential address and phone numbers, work schedule, and other personal circumstances. However, to try and reduce attrition, the research team will maintain contacts with fathers who change residential addresses or phone numbers through emails, as well as share engaging newsletters related to the study, digital birthday cards, and printable fun posters. Furthermore, for fathers who maintain their residential address, the research team will send yearly newsletters, engaging refrigerator posters, and stickers, and birthday cards (i.e., for father and child) to their homes. All these will be done to maintain fathers-child engagement throughout the study.

The present study will also use self-reported data from fathers to measure their level of involvement. However, this could be a potential limitation as during the pretest, post-test, and follow-up interviews, fathers might be biased when reporting their experiences and level of engagement with children. Fathers might respond to questionnaires in ways that seem favorable to them or ways they think are expected of them. Another potential limitation to this study is that fathers who sign-up for the study might already be involved in child-rearing activities prior to the study, which may influence their level of paternal involvement and affect the generalizability of the study's findings. Nevertheless, to reduce this limitation, future studies should observe fathers' involvement through direct observation, observational reports from mothers, or other prominent figures in the child's rearing activities.

Implications

Conducting the current study brings forth several implications for developing future father education programs and potential future studies examining the importance of these programs. The creation of education programs such as the proposed intervention program used in this study may be one way that parent educators can help fathers become more interested in their paternal roles while preparing them to meet the demands of these roles. Considering the proposed activities in the intervention program and the study's expected result, the current study will help direct future studies and developing programs as they attempt to engage fathers in high-quality interactive activities that are beneficial to the developmental outcomes of their children. Adopting these proposed activities will help create and implement education programs that effectively increase fathers' involvement.

Additionally, creating programs such as the one assessed in this study, but with a long-term focus, helps set children up for a lasting bond with their fathers or father figures. These education programs encourage children to cultivate a deep and meaningful connection with their fathers or father figures. Therefore, the development of similar programs and studies that will examine and capture the different kinds of bonds children develop with fathers will help increase our knowledge of the effectiveness of such education programs.

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C.E.H.

Culture, Emotion, and Health Lab

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The CEH Lab studies how people regulate their emotions, cope with stress, & how these processes lead to health & well-being. The research questions within the CEH Lab focus on how cultural tendencies & values can shape the development & use of these processes.

The Relationship between Familial Motivation Type and Caregiver Burden: Does Culture Play a Role?

Alena Kwan

Family caregivers of individuals with geriatric diseases (e.g., dementia) and/or serious illness (e.g., cancers) may often experience emotional distress (i.e., caregiver burden) such as stress, anxiety or depression, during the process of caregiving (Anngela-Cole & Busch 2011; Meyer et al. 2015; Ng et al. 2016; Parveen et al. 2013). This caregiver burden (CB) felt by relatives of the care recipient may arise from the loss of self, stress, and toll of attending to the recipient's needs, as well as a felt obligation to support that relative (Anngela-Cole & Busch 2011; Foley et al. 2002; Meyer et al. 2015; Parveen et al. 2013). Yet, caregiving may also have positive impacts and self-gain for the caregiver as the experience of supporting the recipient may be meaningful, fulfilling, or an act of love (Foley et al. 2002; Ng et al. 2016; Roberts et al. 2020; Sand et al. 2010). Willingness to care, or the motivation to support the care recipient, may influence the caregiver's emotional state, and thus impact the caregiver's response to coping with challenges that arise in caregiving (Kim et al. 2015; Ng et al. 2016).

Caregiver Motivation

One's type of motivation may shed insight into the extent to which one feels fulfilled or burdened by caregiving. Intrinsic (i.e., autonomous) motivation is associated with improved quality of life, spirituality (Kim et al. 2015), and better adaptive responses to challenges encountered in family caregiving (Ng et al. 2016). Conversely, extrinsic (e.g., external social group value) motivation is observed with less control over challenges in caregiving (Ng et al. 2016). However, it has also been shown that individuals who have difficulty reconciling intrinsic and extrinsic motivation (i.e., conflict between self and social values) have the greatest tension in dealing with challenges (Ng et al. 2016). From the perspective of self-determination theory (SDT), the struggle in synthesizing motivations may be an example of introjected motivation (Kim et al. 2015).

Introjected motivation is when compliance with an extrinsic motivation is based on social group and/or self-approval or disapproval (Kim et al. 2015). An example of such an introjected motivation is when filial piety (i.e., obligation to family) is practiced only because the individual fears social disapproval if they do not display the value and/or behavior. Yet when the extrinsic social value is accepted by the individual and volitionally engaged in, it is known as an integrated motivation (Kim et al. 2015). This is seen when the individual accepts filial piety and familialism as important to their own self-values. The way in which these introjected and integrated motivation types impact caregiver burden may differ by one's cultural background.

Cultural Orientation and Filial Piety

The felt social obligation to support and help others differs for individualist cultures, which tend to emphasize personal freedom, as compared to collectivist cultures, which emphasize welfare of the social group (Janoff-Bulman & Leggatt 2002). Among Swedish people and Americans (i.e., individualist cultures), closer relationships between relatives predicted increased involvement in caregiving, and motivations for caregiving emphasized its meaningfulness as an experience to the caregiver (Roberts et al. 2020; Sand et al. 2010). This example of the caregiving experience as meaningful is representative of intrinsic motivation. In contrast to individualist cultures, Chinese Americans, Japanese Americans, Vietnamese Americans, and Singaporeans (i.e., collectivist cultures) cited not only the meaningfulness of the caregiving experience, but also often noted filial piety (FP) or obligation to the family as motivations for caregiving (Anngela-Cole & Busch 2011; Meyer et al. 2015; Ng et al. 2016). In SDT, FP as a motivation can be interpreted as integrated or introjected (Kim et al. 2015; Ng et al. 2016), and integrated and introjected FP have both been observed and self-reported in Asians (Anngela-Cole & Busch 2011; Meyer et al. 2015; Ng et al. 2016).

As obligation to family or FP may be expected to have priority over an individual's needs in some collectivist cultures, the struggle to reconcile these opposing motivations may have an impact on mental health and ability to cope with challenges. Family can be both a source of support or stress (Meyer et al. 2015), and the different types of coping skills employed in managing CB can mediate an individual's level of familialism (i.e., loyalty or priority of family) (Parveen et al. 2014). In contrast to collectivist cultures, individualist cultures do not have obligation to family as a value that is prioritized above self-value, and as such, the reconciliation process between self and social value may cause the individualist person less distress than a collectivist person. However, those who may have the greatest difficulty reconciling obligation to family and self-values may be Asian Americans whose cultural background may be collectivist but who currently reside in an individualist culture (Anngela-Cole & Busch 2011; Meyer et al. 2015; Ng et al. 2016). Given the paucity of research on motivation, cultural orientation, and caregiver burden, especially of studies utilizing quantitative methods, it may be pertinent to examine how the social value of FP may impact CB among native Chinese and Asian American caregivers.

The Current Study

The current proposed study attempts to address the question of how the relationship between the social value and motivation of FP and CB may change depending on an individual's cultural orientation (i.e., individualist [Asian Americans] vs. collectivist [Chinese]). As initial qualitative work has shown that individuals who struggle with reconciling intrinsic and extrinsic motivations have difficulty handling caregiver challenges (Ng et al. 2016), this study hypothesizes that individuals with the introjected motivation of FP will have higher levels of CB in comparison to individuals with integrated motivation of FP. Additionally, given the cultural differences on the value of filial piety (Anngela-Cole & Busch 2011; Janoff-Bulman & Leggatt 2002), this study hypothesizes that people with FP from individualist cultures will have greater CB in comparison to individuals with FP from collectivist cultures. Lastly, the study hypothesizes that individuals with introjected FP from individualist cultures will have the highest levels of CB in comparison to integrated FP collectivist individuals, introjected FP individualist persons, and integrated FP individualist persons.

Methods

Participants

A minimum of 40 participants will be recruited from both in-person (e.g., community centers) and online (e.g., Facebook and Weibo groups) caregiver support groups; 20 Asian American individuals from the United States (U.S.) and 20 Southeast and/or East Asian individuals from China. Participants will be eligible to complete the study if they are of 18 years of age or older, are proficient in English or Chinese, are a relative of the care recipient with a geriatric disease diagnosis and/or serious illness (e.g., spouse, sibling, offspring, brother/sister-in-law) and have expressed obligation to family (i.e., FP). Participants will be excluded from the study if they do not meet the initial eligibility criteria, do not express obligation to family in the semi-structured interview, or fail to complete the Caregiver Burden Inventory. The initial screening survey will contain items assessing age, country of origin, ethnicity, primary affliction of the care recipient, relationship to the care recipient, and an open-ended question on motivation and reason for caregiving.

Procedure

Once determined as eligible, participants from the U.S. will represent the individualist group, and participants from China will represent the collectivist culture. To assess participants' reason and motivations for caregiving, participants will then undergo a semi-structured, audio-recorded interview in their primary language (e.g., English, Mandarin, Cantonese). These interviews will be conducted by two graduate level research assistants trained in qualitative data analysis by the primary investigator. When applicable, participants will be asked to provide detail on FP if mentioned as a reason, value, or motivation, in order to understand how they perceive it (see Appendix for interview questions). Following the completion of this motivation assessment, participants will then be asked to complete the Caregiver Burden Inventory.

Measures

The Caregiver Burden Inventory (CBI) has shown consistent reliability and validity in both English and Chinese versions (Chan & Chui 2011; Chou et al. 2002). The CBI assesses time-dependence burden, developmental burden, physical burden, emotional burden, and social burden. It consists of 24 items on a 4 point-range Likert scale, with 0 being 'not at all

descriptive', and 4 being 'very descriptive'. Scores range from 0-96, in which a higher score indicates greater caregiver burden.

Planned Analyses

Interview audio recordings will be transcribed and coded using the NVivo program (QSR International, 2010) for themes concerning caregiver motivation, and value of FP. Motivational themes will be determined and coded based on the presence of recurring statements that are similar in expression and subject. The value of FP will be coded as integrated or introjected based on predetermined criteria for how the value is positioned in the description of their motivations for caregiving. For example, FP will be coded as integrated if the participant engages in caregiving not only because of a felt obligation to take care of family, but also because they personally want to return care to the care recipient. An example of FP that will be coded as introjected is if the participant engages in caregiving because they feel obligated to provide care out of the desire to gain approval from extended family or society. Interrater reliability of codes generated from the interview will be assessed by the agreed-upon ratings divided by the total number of ratings. Data will be statistically analyzed in SPSS (IBM Corp., 2020) using an independent samples t-test and ANOVA in order to determine whether there is a relationship between cultural orientation, the motivation of FP, and caregiver burden.

It is anticipated that the value of FP will be correlated with level of CB. Individuals with introjected FP will have higher levels of CB compared to those with integrated FP. Furthermore, it is expected that individualistic persons will have higher levels of caregiver burden compared to collectivistic participants. It is also expected that individuals with introjected FP from individualist cultures will have the highest level of CB amongst all other groups.

Discussion

As intrinsic and extrinsic motivation is associated with levels of quality of life and spirituality (Kim et al. 2015), integrated and introjected obligation to family as a motivation for caregiving is expected to be correlated with levels of CB. A previous qualitative study by Ng and colleagues (2016) observed that Singaporean individuals with extrinsic motivation reported greater CB than intrinsically motivated individuals. The same study also found that those with introjected motivations had the greatest difficulty dealing with challenges that arose during the caregiving process. Given these findings, we expect to find a similar trend where individuals with introjected obligation to family will display higher levels of CB in contrast to those with integrated obligation to family.

Previous research has shown that both collectivist and individualist culturally oriented individuals have noted possibly facing feelings of shame if they refrained from caregiving (Anngela-Cole & Busch 2011; Ng et al. 2016; Sand et al. 2010). However, Asian Americans who reside in individualist cultures but whose cultural heritage is collectivist may face greater CB given the difficulty reconciling the individualist self-values with their collectivist FP (Anngela-Cole & Busch 2011; Meyer et al. 2015). Asians who reside in a collectivist culture and whose cultural heritage is collectivist may not face this same difficulty in reconciling FP with self-values.

Individuals with introjected FP from individualist cultures are expected to display the highest levels of caregiver burden because of the distress caused by difficulty reconciling self-value and social value. This expectation is based on the idea that the value of obligation to family or caring for others in collectivism carries greater importance than in individualist cultures (Janoff-Bulman & Leggatt 2002). As such, FP may be especially difficult for Asian Americans to reconcile with their self-values. Integrated FP collectivist persons, introjected FP collectivist persons, and integrated FP individualist persons may display lesser levels of CB because they do not have combined introjected motivation and individualist cultural orientation.

Strengths and Limitations

This study proposal aims to fill in the gaps of research on motivation in caregiving in its use of statistical analyses. Previous studies on motivation and caregiving have largely been qualitative, and this study is among the few that attempts to examine statistically significant association between motivation and caregiver burden using both quantitative and qualitative methods. Additionally, this study proposal attempts to address the aspect of cultural orientation in caregiving motivation and burden, whereas other studies have only examined the role of race and ethnicity in caregiving motivation and burden.

However, this study is limited in that it only examines a single motivation (i.e., obligation to family) and observes two cultural groups (i.e., Asian Americans from the U.S. and Southeast and/ or East Asians from China). As a result, this limits the generalizability of findings to other groups. As it also examines only one motivational concept, the chance of the results being due to other motivational concepts or the strength of the motivation itself is relatively high. Economic status, age, or strength of relationship to the care recipient may also influence the results. Future replication of this study that accounts for these variables, as well as other cultures, is advised.

Implications

The results of this study (regardless of its outcome) aim to address the possible association between motivation, cultural orientation, and caregiver burden. Should the results of this study support this link, it may provide insight to culturally specific and inclusive motivational interventions for caregiver burden. It might also provide a new line of inquiry into the role of caregivers' personal and cultural values on emotional burden and methods of caregiving. However, even if the results of this study do not support this link, the study is still able to add to the literature on motivation and caregiver burden. It informs others of possible future directions to take on the subject of caregiving by reporting that in this particular study, a link between motivation, cultural orientation, and caregiver burden could not be found.

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Figure 1. Average CBI (Caregiver Burden Inventory)

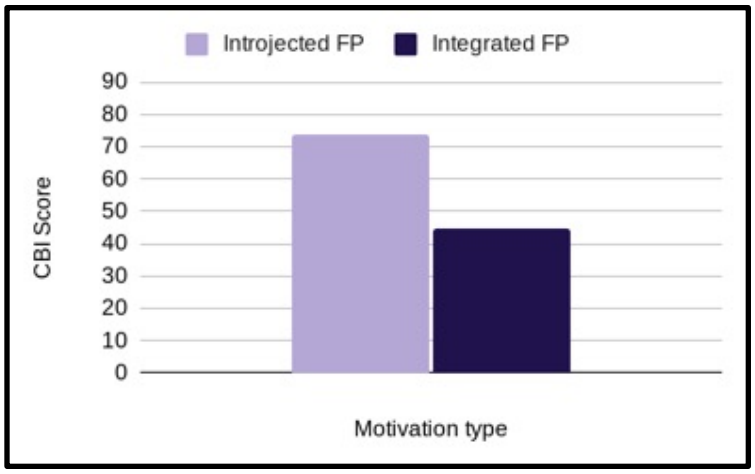


Figure 2. Average CBI (Caregiver Burden Inventory)

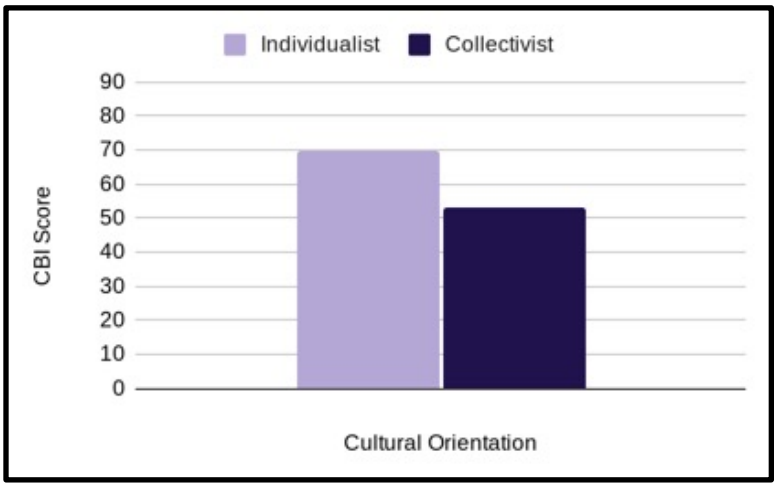
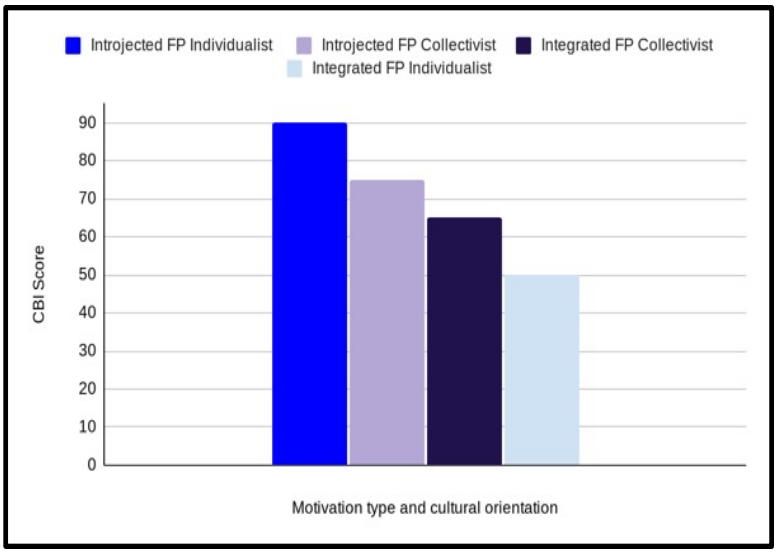


Figure 3. Average CBI (Caregiver Burden Index) score by motivation type and cultural orientationscore by motivation type



Appendix

Semi-Structured Interview Questions

1. How did you become involved in caregiving?

2. What are some reasons that you are engaged in caregiving?

3. What does caregiving mean to you?

4. How do you handle any challenges that may arise during the caregiving process?

5. How do you keep yourself motivated to continue caregiving in adverse situations?

6. Do you seek help from family when caregiving? Is the family expected to provide each other support in times of need?

7. Do you feel an obligation to help or support your family?

Additional questions may be added in order to elicit elaboration on motivational obligation to family or filial piety when mentioned by the participant

Investigating Critical Consciousness and Racial Color Blindness among Black/White Biracial Individuals: A Quantitative Study

Rieanna McPhie

In the 2010 United States (U.S.) Census, federal recognition of multiracial identities was seen with the option to select more than one race (Rastogi et al., 2011). The census revealed that 9.5% of married couples and 14% of unmarried heterosexual couples were interracial. Additionally, 1.8 million of the U.S. population racially identified as Black and White, which is the largest multiracial population in the nation (Rastogi et al., 2011). Even in media, an increase in the visibility of multiracial populations, specifically Black and White biracial folks, has been seen, such as former and first Black president Barack Obama, singer Mariah Carey, and former football player Colin Kaepernick.

Yet, multiracial populations are still heavily underrepresented in peer-reviewed psychology literature (Edwards & Pedrotti, 2008; Stone & Dolbin-MacNab, 2017). Some reasons for this limitation can be due to methodological difficulties such as inconsistent definition/ categorization of multiracial across studies such as whether to include Latinx or Hispanic as a category, individuals identification differing across situations (e.g., biracial at home, but one race at school), and the populations uneven distribution in location across the United States (Charmaraman et al., 2014). Hence, excluding narratives, less than 30 peer-reviewed articles are available on major counseling journals up to 2013 around this topic (Edwards & Pedrotti, 2008; Evans & Ramsay, 2015). While it is clear that there has been more research done in recent years as can be seen in the articles referenced in this paper, with a drastic increase since the 2000 (Charmaraman et al., 2014), the biracial identity development model created by Poston as a dissertation (1990) is still referenced by counselors and journal articles since it is the only model available to this day (Evans & Ramsay, 2015). Multiracial individuals, compared to their monoracial peers, tend to seek more counseling service (Milan & Keiley, 2000). It is crucial for psychologists and counselors to have more available literature on multiracial populations to better appropriately serve this underrepresented population when providing service.

Parental Racial Socialization of Multiracial Folks

For many people, the family setting is where they learn about the world and how to navigate it with one's identities whether that being race, gender, or socioeconomic class. Especially for historically oppressed racial groups, this is a key component of their racial identity development. For example, Black families often teach their children how to behave and communicate when encountering police officers, or to embrace and be proud of their Black features (e.g., curly hair, dark skin) regardless of White beauty standards that may be portrayed in media.

Such practices where parents teach their children about race, racism, inequality, ethic pride, or culture are referred to as parental racial socialization. The frequency and quality of parental racial socialization can make an enormous impact on a child's view and attitude of the world and their racial identity development. A study with Black college students found that higher parental racial socialization was linked to lower racial colorblindness, an ideology that dismisses the presence of race and racism, especially systemic racism (Barr & Neville, 2014). Hence, the more open conversation individuals had with their parents regarding racism and oppression, they were more likely to acknowledge and handle racism as a system issue instead of internalizing it. While studies with Black/White biracial folks have shown consistent findings as Barr and Neville (2014), parental racial socialization can be a unique process for Black/White biracial people due to interracial family structure and parents' differing racial experiences as oppressor and oppressed. Moreover, parental racial socialization can be a key component of how well a multiracial person integrates their racial identities, also known as Multiracial Identity Integration (MII).

Importance of Multiracial Identity Integration

All multiracial individuals in the U.S. will sooner or later have to decide how they will racially identity, as reporting one's race is required in documentation

from the U.S. Census to college applications (Franco et al. 2016; Milan & Keiley, 2000). However, it is the individual's choice whether to identity as their combined multiracial identity or to identify with only one of their races. Regardless, multiracial folks who have a higher multiracial identity integration and express better understanding and pride in their identity have significantly greater self-esteem and show resilience at the face of microaggressions (Bracey et al. 2004; Forrest-Bank & Cuellar, 2018).

Growing up in a supportive household where parents support their child's multiracial identity development also is a mitigating factor for internalized racism or being negatively affected by racial microaggressions. In interviews with Black/White youth, the less conversations of race the youth had in their household, the more they expressed confusion when navigating their mixed identity and feeling of unpreparedness when identifying and dealing with racism (Crawford & Alaggia, 2008). Contrastingly, interviews with White/Black children and their White mothers, found that high parental racial socialization by providing supportive environment to discuss race and teaching both racial heritages resulted in greater multiracial identity development and integration (Stone & Dolbin-MacNab, 2017).

Racial microaggressions are prejudice or discrimination against race characterized as being subtle, indirect, and often unintentional (Nadal et al., 2011), and multiracial folks often experience microaggression in the form of identity invalidations. One form of this invalidation is through interpersonal communication. For example, with Black/White individuals, their racial identity is threatened through denial of identity (e.g., But you're not really Black) or forcing of identity (e.g., You should identify as Mix) by Black folks in settings of predominantly White people. In addition, research has found that Black/White biracial people are often denied their Black identity and were equality told to identity as Black and White (Franco et al., 2016). The imposition of Black identity can be explained by the social and historical phenomenon of the one-drop rule, where White individuals with any Black heritage are expected to identify as Black (Kerwin et al., 1993). Regardless, identity invalidation, especially from people in the same racial group, can leave the Black/White biracial person feeling upset/hurt, confused, and isolated (Franco et al., 2016).

Microaggressions like other forms of discrimination usually leads to negative mental health outcomes. For multiracial individuals, constant exposure of identity questioning and identity invalidation by not only strangers, but those who are close to them can significantly affect their self-esteem and mental health.

One of the most known result of microaggressions on multiracial folks are decreased self-esteem. Self-esteem can be defined as how much a person feels worth and value for themselves. It is usually used as a marker for psychological adjustment, and negatively correlates with psychological health and distress (Bracey et al. 2004; Forrest-Bank & Cuellar, 2018). Studies with multiracial college students saw a significant negative correlation between self-esteem and microaggression (Bracey et al. 2004; Nadal et al., 2014). Especially, workplace/school microaggressions leads to lower self-esteem more than other types of microaggression (Nadal et al., 2014). Other impacts of microaggression on mental well-being are stress (Albuja, 2018), cultural homelessness, loneliness (Franco & O'Brien, 2018), depression (Reid Marks et al., 2020), and autonomy, and (Sanchez, 2010). Hence, multiracial microaggressions can lead to a number of negative outcomes affecting one's mental health and identity both internally and socially. However, having high multiracial identity integration through critical consciousness can help to mediate such negative experiences.

Racial Color-Blindness versus Critical Consciousness

In contrast to racial color-blindness, which often unintentionally upholds racism and allows the continuation of systemic racial oppression, critical consciousness is the ability in which oppressed groups of people learn to identify and overcome oppression and take action to change such conditions (Diemer & Blustein, 2006). Moreover, critical consciousness is positively correlated with academic achievement (Seidar et al.,2020), career decision self-efficacy (i.e., the ability to complete necessary tasks to achieve successful career decisions) (Cadenas et al., 2020), persistence in college, and life satisfaction (Cadenas et al., 2018). Consistent with monoracial findings, multiracial research has found that having lower racial color-blindness and higher critically conscious is significantly linked to higher multiracial identity integration with (McDonald et al., 2019). Therefore, the more they can identify negative racial experiences and acknowledge them

as oppression, the more comfortable and prouder the individuals are about their multiracial identity. Hence, parents and other support systems such as school of Black/White biracial students should strive to develop the youth's critical consciousness so that they are better equipped in dealing with racially negative experiences better. Moreover, higher critical consciousness can allow the students to show resilience and be successful in academic and professional spaces that they currently may be in or will be a part of in the future.

The Present Study

To further understand Black/White biracial identity development, I will explore the unexamined relationship between multiracial identity integration with color-blindness and critical consciousness. Since identity integration for biracial individuals are often related to their level of parental racial socialization, parental racial socialization will also be examined as a directional factor. Therefore, the proposed study will examine whether Black/White biracial college students are at risk of having high color-blindness and lower critical consciousness due to their socially conflicting racial identities and associated parental racial socialization. The researcher hypothesizes that [1] higher parental racial socialization will lead to higher multiracial identity integration (MII), [2] increased MII will relate to lower color-blindness, [3] increased MII will relate to higher critical consciousness.

Methods

Participants

Two hundred and fifty first-generation biracial undergraduate students will be recruited from 11 of the City University of New York (CUNY) 4-year schools: Baruch College, Brooklyn College, College of Staten Island, Hunter College, John Jay College of Criminal Justice, Lehman College, Medgar Evers College, New York City College of Technology, Queens College, and The City College of New York, York College. Moreover, to contribute to the study, [1] participant's will have to have one biological Black (i.e., African, African American, Caribbean, Afro origin) parent and one biological White (i.e., European origins) parent and [2] be a first-year undergraduate student in their first semester of one of the 4-year CUNY schools. Participant's Black/White biracial identity will be categorized based on the participants parental racial combination rather than the participants racial identification for the purpose of the study as multiracial folks although same racial combinations can identity differently (Csizmadia et al., 2014; Kerwin et al., 1993) Information about participation in the study will be sent out through a university wide online listserv with a direct link to the questionnaire and flyers will be posted on each campus on their bulletin boards with a QR code with a direct link to the questionnaire.

The study will focus on college students for convenience, but also since college can be a transitional period for many individuals with less parental exposure due to relocation or more exposure to diversity depending on the schools they attend. Studies have found having social justice conversations with mentors (Monjaras-Gaytan et al.,2021) or participation in service learning can help to foster critical consciousness in college students (Barrera et al., 2017; Rondini, 2015). It can also be hypothesized that majors such as psychology or criminal justice that may cover conversations of critical consciousness may also foster critical consciousness compared to other majors. Hence, in hopes to avoid possible disparities in the student's courses or social justice-based college involvement that can increase critical consciousness and decrease color-blindness, data will be collected when students first enter college and do not have much difference in terms of college experience.

Procedure

After the study is approved by the University Institutional Review Board, the online listserv will be sent out and flyers will be available on campus during the first and second month of the Fall semester (e.g., September and October) and Spring semester (e.g., February and March) for all the colleges. The questionnaire will be created via Qualtrics and will be mobile friendly. After participants complete a consent form, they will be prompted to confirm their biracial identity and academic standing before moving forward to the questionnaire items. After completing the questionnaire, participants will be given contact information of the researcher, list of ethnicity and social justice based on campus student organizations, and mental health services available on campus and online.

Measures

Demographic questionnaire
All participants will complete a demographic

questionnaire asking them of the following information: age, gender, race, ethnicity, skin color/tone, socioeconomic status, country of birth, state of residence, racial composition of neighborhood, relationship status, race of partner, parents' race, parental marital status, and main caregiver (i.e., the caregiver the participant spent most of their time with). All questions other than skin color and socioeconomic status will be open-ended. It is especially important to allow participants to self-identity their race as forcing individuals to check off boxed can be a form of multiracial microaggression (Johnston & Nadal, 2010).

Racial Color-Blindness

Participants will complete the Color-Blind Racial Attitudes Scale (CoBRAS; Neville et al., 2005), a 20-item scale that measures a person's racial color-blindness. The items are categorized between Unawareness of [1] Racial Privilege, [2] Institutional Discrimination, and [3] Blatant Racial Issues, and is rated on a 6-point Likert scale ranged from 1 (strongly disagree) to 6 (strongly agree).

Multiracial Identity Integration (MII)

The Multiracial Identity Integration Scale (MIIS) developed by Cheng & Lee (2009) is a self-report consisting of 8-items, 4-items each for subsets Racial Conflict (e.g., "I feel torn between my different racial identities") and Racial Distance (e.g., "My racial identity is best described by a blend of all the racial groups to which I belong"). Scores are completed on a 5-point Likert scale with 1 (completely disagree) and 5 (completely agree).

Critical Consciousness

The Critical Consciousness Scale (CCS; Diemer et al., 2017) will be used to measure the participants' critical consciousness level through 13-items in subscales Critical Reflection and 9-items in Critical Action. Responses are measured using a 6-point Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree).

Parental Racial Socialization

The modified version of the Cultural and Racial Experiences of Socialization Scale (CARES; Stevenson & Bentley, 2007) by Barr & Neville (2014) will be used. The Barr & Neville (2014) version of CARES is a 29-item scale measuring racial socialization specifically received from parents and/or peers. Participants will report the frequency of the socialization experienced by a 3-point Likert scale with 1 (never) and 3 (a lot of times). Subsets include, [1] 15 items of Cultural Pride (e.g., "Racism is real, and you have to understand it or it will hurt you."), [2] 10 items of Alertness to Racism (e.g., "Black youth are harassed by police just because they are Black."), and [3] 4 items of Mainstream Socialization (e.g., "Since the world has become so multicultural, it is wrong to focus on Black issues").

Planned Analysis

For this quantitative study, data will be analyzed using Statistical Package for the Social Science (SPSS). Descriptive statistics will be used to describe and summarize participant personal information. Then, to test the hypothesis, bivariate correlational analyses will be run between [1] multiracial identity integration (MII) and parental racial socialization, [2] MII and racial color-blindness, and [3] MII and critical consciousness.

Anticipated Results

Past literature suggests that among Black/White biracial individuals, increase in parental racial socialization helps to increase multiracial identity development (Stone & Dolbin-MacNab, 2017) and critical consciousness (Crawford & Alaggia, 2008). This combined with how increase in parental racial socialization can decrease color-blindness among Black college students (Barr & Neville, 2014). Hence, consistent results are expected among Black/White biracial folks, so it is anticipated that Black/White biracial college students who score high on parental racial socialization will also score high on multiracial identity integration, resulting in higher critical consciousness and lower color-blindness. In other words, that if a positive correlation is found between parental racial socialization and multiracial identity integration, a positive correlation will be seen between parental racial socialization and critical consciousness, and a negative correlation will be seen between parental racial socialization and color-blindness.

Discussion

The goal of this proposed study is to look at how parental racial socialization can influence critical consciousness and color-blindness through multiracial identity integration among Black/White biracial college students. If the hypotheses are supported, the results suggest that Black/White biracial college students who have a positive correlation between experience of parental racial socialization and multiracial identity integration,

will have lower color-blindness and in contrast a higher critical consciousness. This suggests that these students will most likely: [1] Have had more opportunities to discuss topics surrounding race, racism, and identity with their parents, allowing them to actively explore and examine their dual Black and White identity; [2] Feel more comfortable and prouder, rather than conflicted and alienated, about their Black/White biracial heritage; [3] Are more equipped with skills and the ability to acknowledge, analyze, and battle racism, and recognize oppression as a systemic issue and avoid internalization; [4] Persist and show resilience at the face of negative racial encounters and succeed academically and professionally; and [5] Are able to protect their mental health and self-esteem from microaggression or other forms of discrimination due to their better understanding of racism and combined racial identity.

Furthermore, the present study is the first to quantitatively explore parental racial socialization and critical consciousness among Black/White biracial folks. This study can open doors for future researchers to further explore biracial and multiracial topics in regard to their perspective and attitude towards race and racial injustices. It can also help create intervention for color-blindness in academic or household settings.

Limitations and Future Implications

Potential limitations are that first, the results cannot provide contextual detail that would be helpful for parents and counselors working with this population. Use of mixed methods may help to gain more qualitative data that can help researchers identify additional factors that can play into the relationship of color-blindness and critical consciousness among Black/White biracial college students. Second, is the generalizability of the results both within the Black/White biracial population and multiracial population at large. As discussed earlier, multiracial data can differ depending on family's identification of their biracial children, parent's age, socioeconomic status, urbanicity, and reginal location (Csizmadia et al., 2014). Thus, making it difficult to generalize the potential findings of this study for such biracial and multiracial populations. Also, while multiracial identity has been examined in predominantly White and Black universities, multiracial student's critical consciousness in such environments have yet to be examined, hence may be of interest for future psychologists to study.

Since parental socialization has not yet been examined while in an active state, longitudinal studies, although costly and time consuming, by focusing more on the developmental aspect in parenting may be interesting to explore as well. Also, experiments where one group continues their current style of parenting while the other is given prompts and books that focus on topics that promotes racial socialization and critical consciousness may be able to provide more directional evidence of parental racial socialization on multiracial individuals level of critical consciousness. Such suggested studies may be able to directly assist in developing more racially couscous and multicultural counseling services for biracial and multiracial folks. Furthermore, such experiments can possibly provide more practical parenting recommendations for interracial families to better assist in their child's identity development.

Lastly, the proposed study continues to past research, only focuses on Black/White biracial folks and uses a convenient sample of college students, when multiracial population are in itself diverse and requires more representation and understanding in psychology research. While multiracial studies are currently increasing, compared to other monoracial groups are still a new population of focus. Hence, has many possibilities when it comes to its methods and its exploration with other intersectional identities or mental health outcomes. Although there are still technical difficulties than can make multiracial research difficult, it is important that more research is conducted in order to better represent this population in psychology literature and better understand the diverse multiracial population as much as we understand monoracial populations.

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F.A.C.E.S.

Families and Children Experiencing Success

PI: Anil Chacko
Mentor: Brittany Matthews

FACES is directed by Anil Chacko. The lab was developed to serve the families of youth exhibiting disruptive behavior disorders such as Attention-Deficit/Hyperactivity Disorder, Oppositional-Defiant Disorder, and other conduct disorders. Its research aims to understand how to develop the most effective prevention, intervention, and service models for youth with disruptive behavior disorders and related conditions, or those at high risk for developing them.

The Impact of Implementing Cultural Assessment Before Trauma-Focused Therapy on Outcomes for Racial and Ethnic Minoritized Youth

Iris M. Mann

Ethnic and racial minorities within the United States experience higher rates of posttraumatic stress disorder (PTSD) compared to white Americans (Williams et al., 2018). In the past, trauma research has been largely exclusionary in its lack of consideration of racial and ethnic identity (Alvarez, 2020; Ranjbar et al., 2020). This deficit in research has implications for the quality of care and effectiveness of evidence-based interventions used with these populations. It is important to understand and investigate why these racial and ethnic health disparities exist and additionally consider the role that the experience of racism, both interpersonally and systemically, has regarding trauma and PTSD. This investigation must consider the way these experiences manifest as well as how clinical interventions can be most effective. For this study, we will be using a definition of trauma drawn from the Substance Abuse and Mental Health Services Administration, which states:

> Individual trauma results from an event, series of events, or set of circumstances that is experienced by an individual as physically and emotionally harmful or threatening and that has lasting adverse effects on the individual's physical, social, emotional, or spiritual well-being (2014).

As understood through this definition, trauma is widespread and has been identified as a public health crisis (Ranjbar et al., 2020). Trauma-informed care is a growing approach in clinical practice that centers on the client's needs and must be structured in a way that prioritizes healing while being mindful of past lived experiences (Elliott et al., 2005).

Trauma-Informed Care

Adverse childhood experiences (ACE) inventories traumatic experiences or exposures to trauma that can be predictive of significant mental, physical, and behavioral challenges and are directly associated with depression and risk for suicide among youth (Felitti et al., 1998). However, the initial body of ACE research does not consider social inequities and their associated health disparities. The primary participants were majority white, upper-middle-class, college-educated individuals with access to health insurance and quality care (Ranjbar et al., 2020). Later research that broadened ACE study populations found that these outcomes, in addition to overall greater ACE scores, are exacerbated within underserved populations. It is important to note that racial and ethnic minorities are at a significantly higher risk of experiencing multiple ACEs (Alvarez, 2020; Merrick et al., 2018; Stolbach & Anam, 2017; Strompolis et al., 2019). Based on these health disparities, care tailored to those most susceptible to experiencing ACEs must be considered in the delivery and creation of trauma-informed treatment.

Many different trauma-informed clinical interventions exist. For youth, Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) is one of the leading trauma-informed interventions (Addison et al., 2007; Cohen et al., 2012). TF-CBT is a manualized treatment delivered to youth and their families by clinical caregivers through separate and conjoint sessions (Cary & McMillen, 2012). TF-CBT is considered an evidence-based treatment and has many parallels to other cognitive-behavioral therapy-based interventions but focuses more on developing coping skills related to past trauma (Cohen et al., 2012). While TF-CBT is an empirically-validated practice for youth who have experienced trauma, it is worth noting that racial and ethnic disparities exist within barriers to access and dropout rates during the intervention (Yasinski et al., 2018). It is important to consider how culture affects experiences with the intervention when working with racial and ethnic minoritized populations.

Cultural Humility

Patient-centered care is trauma-informed and must also be reflective of the client's lived experiences and societal contexts. A proposed way to enforce recognition of these contexts is through cultural humility, the practice of considering the cultural memberships and contexts of your client and self

within society and the client-clinician relationship (Ranjbar et al., 2020). However, the field of psychology was created by and for white individuals (Buchanan & Wiklund, 2020; Hays, 1996). The field has made many strides towards multiculturalism and addressing the needs of varying identities in therapeutic practice. Unfortunately, some multiculturally-focused clinical work, specifically for racial and ethnic minorities, fails to address the nuances of other intersecting identities (Hays, 1996; Rasmussen & Lavish, 2014). This calls attention to the need for multidimensional frameworks of cultural assessment that recognize that culture is not a monolith nor merely an ethnic marker. Culture varies in definition but broadly "describes the whole of an individual's learned behaviors, thoughts, and perceptions" and is shaped generationally "from institutions, organizations [and] group membership" (Rasmussen & Lavish, 2014, p. 3).

Based on the importance that culture holds in our social world and its significance in the lives of clients, Hays (1996) created the ADDRESSING Model. The ADDRESSING Model helps clinicians better understand and treat a client; it assesses age, disability, religion, ethnicity/race, social status, sexual orientation, Indigenous heritage, and gender within a framework that highlights which identities are minoritized within a United States context. Incorporating the ADDRESSING model into clinical practice, especially into trauma-informed therapy, is not only beneficial for the cultural humility of the clinician but also, when implemented correctly, contextualizes the patient's lived experiences (Hays, 2009; Rasmussen & Lavish, 2014). Research suggests that utilizing the ADDRESSING Model improves clinician self-awareness and case conceptualization (Calloway & Creed, 2021). However, a gap in the literature exists regarding current implementations of these cultural assessment tools and their effects on client outcomes (Benuto et al., 2018).

The Current Study

Based on the prevalence of trauma and PTSD within the racial and ethnic minoritized populations, it is imperative to tailor trauma-informed interventions to the needs of those most affected. This study aims to investigate how integrating cultural assessment into trauma-informed, evidence-based treatment will impact mental health outcomes for racial and ethnic minoritized youth. We hypothesize that implementing cultural assessment into trauma-informed, evidence-based treatment will be associated with better mental health outcomes and client ratings of the clinician for youth than when these assessments were not implemented.

Methods

Participants

We aim to recruit 75 participants for the study. In order to be included in the study, participants must be 1) youth between the ages of 14 and 19; 2) self-report and have parents report symptoms of PTSD as defined by the DSM-V, and 3) identify as a racial or ethnic minoritized within a United States context. Exclusion criteria includes those who endorse suicidal ideation or experience active psychosis because these participants would need more comprehensive care beyond the scope of the intervention.

Procedures

Parents and participants will be recruited online through social media and from the community through outreach at public venues, clinics, and events in a Northeastern metropolitan city. The university's Institutional Review Board will approve the protocol. Informed consent will be obtained from participants 18 or 19 years of age; parent permission will be obtained for youth younger than 18 years. Youth younger than 18 will also provide their assent.

This study is a randomized control trial, and 25 participants will be randomly assigned into three different conditions. The first group will be designated to the waitlist control condition, and the second group will receive 16 sessions of TF-CBT. The third group will also receive 16 sessions of TF-CBT, and their practitioner will be required to assess their client during intake utilizing the ADDRESSING Framework with the Wright-Constantine Structured Cultural interview (WCSCI; Wright & Constantine, 2020). All participants will complete self-reported and clinician-implemented measures before the intervention (T1), immediately after the intervention is complete (T2), and at a 3-months follow-up (T3).

Measures

The Clinician-Administered PTSD Scale for DSM-5-Child/Adolescent Version

The participants will be assessed using the Clinician-Administered PTSD Scale for DSM-5-Child/

Adolescent Version (CAPS-CA-5), a 30-item scale that measures the 20 PTSD symptoms as defined by the DSM-V in an age-appropriate manner (Pynoos et al., 2015). An example of a question would be, "In the past month, have you had upsetting thoughts, pictures, or sounds of what happened come in your mind when you didn't want them to?" Symptom severity ratings are based on self-reported intensity and frequency. Severity and intensity are rated on a scale of 0, "absent," to 4, "extreme" (Pynoos et al., 2015). The CAPS-CA-5 will be administered at all time points in the study.

The Child PTSD Symptom Scale

The Child PTSD Symptom Scale (CPSS) is a child-version of the Posttraumatic Diagnostic Scale (PDS) (Foa et al., 2001). The PDS, a brief self-reported measure, will be used in concurrence with the CAPS-CA-5 (Pynoos et al., 2005). The CPSS is quite similar but has been normed for children. This tool has two sections: the first section has 17 items that measure PTSD symptomatology, and the second section has seven items that measure daily functioning and associated functional impairments. The first section (items 1-17) is scored 0, "not at all or only at one time," to 3 "5 or more times a week/almost always," regarding questions like, "Within the past two weeks, how often have you experienced not feeling close to people around you?" In the second section, "yes" and "no" answers are given to questions trying to ascertain if the problems identified in section one are interfering with aspects of life such as "schoolwork" (Foa et al., 2001). The CPSS will be administered at all time points in the study.

The Trust and Respect in the Patient-Clinician Relationship Scale

Finally, participants in clinical conditions will be asked to complete the Trust and Respect in the Patient-Clinician Relationship Scale (TRP-CRS) after the intervention (Crits-Christoph et al., 2019). The TRP-CRS is an 8-item scale that is rated 1 ("strongly disagree") to 7 ("strongly agree") by the patient. An example of a statement from the measure is "I respect my therapist." Parents will also receive a normed version of this scale to assess the clinician.

Engagement

Participant engagement will be measured by the number of sessions missed and if the intervention was completed.

Data Analytic Plan

We plan to analyze the data using between and within-group ANOVA. We will use between-group ANOVA to measure significant differences between the intervention and control groups. We will use the within-group ANOVA to measure significant differences within each group.

Expected Results

It is expected that there will be significant differences in therapeutic outcomes between the three conditions. We expect a significant reduction in the CAPS-CA-5 scores, self-reported CPSS scores, and trauma symptomatology post-intervention for both TF-CBT and TF-CBT + WCSCI conditions. Additionally, we expect that participants in the TF-CBT + WCSCI condition will have greater reductions in PTSD symptom severity and frequency and lower CAPS-CA-5 and CPSS scores than participants in the TF-CBT condition. Lastly, we expect youth and parents in the TF-CBT + WCSCI condition to report higher Trust and Respect in the Patient-Clinician Relationship Scale scores than youth and parents receiving just TF-CBT.

Discussion

This study assesses the impact of cultural assessment on TF-CBT efficacy for racial and ethnic minoritized youth. To our knowledge, such work with these populations has not been done before. We would expect that the participants within the TF-CBT + WCSCI condition would have better treatment outcomes, specifically decreased PTSD symptomatology as compared to the TF-CBT and control condition. In addition, the diverse sample and attention to the clinician-patient relationship are strengths of the study.

Some limitations of this study include its cost, duration, and specificity of the cultural assessment and trauma-informed treatment. This experimental design would be a large commitment for its participants and clinicians, which could be a barrier to participation; the burden of the treatment could also impact successful completion rates within each of the conditions. The specificity of TF-CBT and the WCSCI helps maintain consistency across conditions and impedes generalizability for the study results. It is unclear whether the effects of cultural assessment on participants in this study would be generalizable to other interventions, presenting problems, or populations. Future studies

should investigate the efficacy of TF-CBT with a cultural assessment within a larger participant pool and with an added qualitative component to assess participant attitudes toward both treatment and the clinician.

This study proposal explores whether cultural humility and appropriate cultural integration in assessment would be associated with better treatment outcomes for racial and ethnic minoritized youth who have experienced trauma. This information could help inform the development of more effective clinical interventions for racial and ethnic minoritized youth. While racial trauma is becoming more recognized within clinical literature (Williams et al., 2018), it is important to note that all incidents of trauma are racialized, not just incidents categorized as racial trauma. When developing evaluations, individuals' racial identities and treatments must consider these components (Alvarez, 2020; Hays, 1996). White supremacy has provided an infrastructure that has historically tailored care and interventions to white individuals, and efforts to better the field of clinical science must be intentional in noting the role that racial and ethnic identity play in experiencing trauma, access to trauma-informed evidence-based treatment, and the efficacy of these treatments (Buchanan & Wiklund, 2020). The study detailed in this proposal would help inform treatment and future research into effective interventions for individuals who hold identities more at risk of experiencing trauma and developing PTSD based on systemic inequities.

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Effects of Parental ADHD Symptoms on Parenting Quality

Angelica M. Vasquez

Adult ADHD (Attention Deficit Hyperactivity Disorder) is a topic that is not as popularly researched as its pediatric counterpart and often goes undetected as adults tend to find ways to work around their symptoms rather than seek treatment. Despite this, ADHD has an estimated lifetime prevalence of 8.1% and an adult prevalence of 4.4% (National Institute of Mental Health Information [NIMH], 2017). While ADHD symptoms must be indicated in childhood (before age 12) for a clinical diagnosis, 40-60% of children with ADHD will continue to meet diagnostic criteria throughout adulthood (APA, 2013; NIMH, 2017). This statistic does not account for many other adults who have never been screened for ADHD in childhood or adulthood while still facing functional impairment. ADHD consists of a chronic impairment of emotional regulation, attentiveness, and impulsivity (APA, 2013). Without treatment, as is often the case in adult ADHD, these deficits can lead to lifelong adverse social, academic, and vocational outcomes (Biondic et al., 2019).

Consequences of Adult ADHD

Vocational Consequences

Adult ADHD has several occupational and, consequently, financial repercussions. For instance, adults with ADHD tend to miss more workdays and have lower work performances than those without ADHD (de Graaf et al., 2008). Furthermore, Gibbins et al. (2010) assert that adults with ADHD often choose professions where their inattentiveness goes unnoticed or allow them to hyper-focus on a subject of interest. This professional limitation has negative consequences for the financial outcomes of adults with ADHD as well. Adults with ADHD are more likely to be unemployed and make poor financial decisions (Bangma et al., 2020; de Graaf et al., 2008). These financial limitations can pose barriers to receiving proper treatment for ADHD. Worse yet, adults with ADHD are overrepresented amongst prison populations, with a prevalence rate two to five times greater than the general population (Cahill et al., 2012). This further limits their ability to engage in work and to spend time with their families.

Domestic Consequences

Most adults with ADHD have a child also affected by the disorder (Johnston et al., 2012). Regardless of their diagnosis, parents of children with ADHD face heightened levels of parenting stress (Carr et al., 2020). This heightened stress can produce several issues for the parent and their relationship with their child. Parents may face several challenges, such as failing to maintain consistency, monitoring children, setting limits, and maintaining routines, further increasing stress levels (Waite & Ramsay, 2010; Weiss et al., 2000). Failing to meet these parenting standards can cause inward self-depreciation and outward frustration toward their partners and children (Nigg, 2013). Furthermore, ADHD is comorbid with depression and anxiety disorders, causing additional self-blame and isolation (Nigg, 2013; Waite & Ramsey, 2010). On top of that, undiagnosed ADHD is present in 10% or more of non-psychotic patients within addiction, prison, and general adult mental health services (Asherson et al., 2016). Additionally, adult ADHD is associated with relationship and marital problems, including higher divorce rates, remarriage rates, and lower marital satisfaction (Eakin et al., 2004).

Specific Aims of Research

This study aims to fully capture parents' experiences with managing ADHD symptoms and how those symptoms affect the quality of their parenting and their relationship with their children. Through a combination of qualitative interview sessions with parents and quantitative surveys, this study proposes insight into the real, wide-scale effects of adult ADHD as it relates to parenthood. Utilizing mixed methodologies will help to inform quantitative results and provide different forms of information that will increase the breadth of this research. Based on the literature review conducted, it is hypothesized that parents who present with more ADHD symptoms will have poorer relationships with

their children and be less effective at parenting as compared to parents without ADHD symptoms.

Methods

Participants

This research intends to study parents with both diagnosed and undiagnosed ADHD. Specifically, it will include parents who have not been formally diagnosed in the past, considering the number of undiagnosed adults with the disorder. Due to the heritability of this disorder, recruiting for parents will occur within pediatric mental health facilities serving children between the ages of 9 and 14-years-old. Parents will be screened for symptoms using the Adult ADHD Self-Report Scale (ASRS) and categorized into four groups: inattentive, hyperactive, combined, or undetected (below ASRS threshold to suggest ADHD). Because a clinical ADHD diagnosis requires extensive screenings by a mental health professional, categories will not indicate a confirmed diagnosis but strictly categories of behavior tendencies that may indicate a possible diagnosis. This study aims to recruit at least 200 adults and 200 children for the quantitative survey and 20 adults for the qualitative interview.

Inclusion Criteria

To be included in the study, the participants must have a child (age 9 to 14) who has an ADHD diagnosis that has been confirmed by a medical professional (psychologist or psychiatrist) in the last year. The 9 to 14-year-old age range allows the data to be compared against the normed means and standard deviations for each subscale on the Multidimensional Assessment of Parenting Scale provided by Parent and Forehand (2017). The child must be the participant's biological child as this study aims to recruit based on the hereditary nature of ADHD. The parent must live in the same household as the child and be either the primary or secondary caretaker of the child. This study will include both mothers and fathers in its sample. The child must assent to being part of the study, in addition to acquiring parental consent from the primary caregiver. Finally, the parent and child must both be proficient in speaking and reading in English.

Exclusion Criteria

Aspects of some participants will exclude them from being part of the study. Exclusion criteria will include active suicidal ideation or psychosis due to the severity of these conditions, and this will be included as part of the initial participant screener.

Study Design

The present study will utilize a cross-sectional, mixed-methods design. First, participants will be screened before entering the study to ensure their eligibility as described by inclusion and exclusion criteria. This screener will also collect all relevant demographic information (i.e., age, marital status, etc.). Adult participants who pass this screening will complete the following measures in this order: SCL-90-R, ASRS, and MAPS. The SCL-90-R will determine whether the participant is experiencing any undiagnosed psychiatric disorders and symptoms. This measure will ensure that the research measures the effects of parental ADHD rather than other psychiatric disorders on parenting quality. Next, the ASRS will categorize participants into four ADHD groups: inattentive, hyperactive, combined, or undetected. Finally, all participants (adults and children) will complete the MAPS. This measure assesses several parenting qualities (see Measures section), which are either positive or negative.

The above procedures will be followed by interviews with a random sample of 20 adult participants. These interviews will highlight any differences between parents with and without diagnosed ADHD. This qualitative information will demonstrate how adult ADHD affects self-perception of parenting abilities and parenting satisfaction.

Measures

Quantitative Study

Symptom Checklist 90 Revised (SCL-90-R). The SCL-90-R is a general psychiatric disorder screener, and this measure will determine if the participant has any behaviors consistent with other psychiatric disorders aside from ADHD. The SCL-90-R evaluates nine symptomatic dimensions: somatization, obsessive-compulsive disorder, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism (Derogatis, 1983). This measure will help determine whether the parenting quality measured is associated with ADHD or a different psychiatric disorder. This measure consists of 90 items and takes approximately 15 minutes to complete (Derogatis, 1983). An example item from

this scale is "how much were you bothered by: feeling tense or keyed up?" (Derogatis, 1983).

Adult ADHD Self-Report Scale (ASRS). The ASRS is a diagnostic tool that determines if a person is likely to have ADHD. The ASRS has high internal consistency, with a Cronbach's alpha of 0.88 (Adler et al., 2006). There was also a high intraclass correlation coefficient (ICC) between the self and rater-administered versions of the scale. This measure will help differentiate the participants into smaller groups according to their reported ADHD symptom frequency and type. See Appendix A for the full ASRS scale.

Multidimensional Assessment of Parenting Scale (MAPS). MAPS is a clinical tool used to measure different dimensions of parenting. MAPS measures parenting on seven dimensions: proactive parenting, positive reinforcement, warmth, supportiveness, hostility, lax control, and physical control. Several subcategories are combined to formulate two overarching categories: positive parenting (e.g., proactive parenting, positive reinforcement, warmth, supportiveness) and negative parenting (e.g., hostility, lax control, physical control). According to Parent and Forehand (2017), low positive parenting scores (T<40) and high negative parenting scores (T>70) indicate problematic parenting. The MAPS measure will be administered to all participants (adults and children) to double-score parenting qualities. See Appendix B for the full MAPS measure.

Qualitative Interview

The study will include a qualitative interview session administered by the current author. Having a sole interviewer will ensure consistency in interviewing techniques and pacing. The interviews will be semi-structured to allow for additional questions according to the interview's flow. The interview protocol (see Appendix C) consists of eight questions about childhood experiences, parenting choices, and the parent-child relationship. This procedure is estimated to take approximately 45 minutes and will be conducted and recorded through individual, online video calls. The virtual interview format allows participants to be flexible in their availability and reduces the amount of time spent transcribing interviews during the coding and analysis process for the research team involved in this study. This interview will not be clinical or diagnostic but rather provide a narrative and specific details of how parents with ADHD perceive parenting compared to the control group.

Planned Analyses

Quantitative Analysis

Parent responses will be assessed on their report of positive and negative parenting practices as defined by the subscales within MAPS. Positive parenting is correlated with high values of proactive parenting, positive reinforcement, warmth, and supportiveness, while negative parenting is correlated with high values of hostility, lax control, and physical control. MAPS is a self-report measure and will be supplemented by the child version of the questionnaire (see Appendix B). A one-way ANOVA will be used on the resulting MAPS data to reveal any differences in parenting practices between the four groups of participants (inattentive, hyperactive, combined, and undetected). This analysis will reveal the difference in the mean values for each item on the quantitative scales used. Sample descriptive statistics will demonstrate the prevalence of ADHD in this group according to the ASRS.

Qualitative Analysis

Following the interviews, the transcript and recording will be edited for clarity by the interviewer and note any body language that came across during the interview. Next, each transcript will be analyzed by two team members. Each team member will write down any main themes and supporting quotes to exemplify that theme. Where team members come to different conclusions concerning themes, the interviewer will independently analyze the interview transcript to reach a consensus. Interview recordings will be analyzed as a group to notice any overarching thematic trends emerging. As the interview questions are open-ended, parents will be able to share positive and negative parenting experiences. Because of this, the coding scheme for this interview will be largely inductive, forming after data is collected and transcripts begin to be analyzed. After the main themes have been determined, interview transcripts will be coded according to the identified themes.

Expected Results

Expected Quantitative Results

Compared to the undetected group, parents with more ADHD symptoms will score higher on MAPS subscales related to negative parenting

traits (hostility, lax control, and physical control). Furthermore, parents with more ADHD symptoms will score lower on positive parenting traits (proactive parenting, positive reinforcement, warmth, and supportiveness). There will also be notable differences on some MAPS subscales between the four different groups identified by the ASRS. Inattentive parents will be more likely to score higher on lax control, while hyperactive parents will score higher on physical control and hostility.

Expected Qualitative Results

Parents who have more ADHD symptoms will report more challenges related to daily activities and worse relationships with their children during interviews. These challenges will be self-identified by the participants in response to interview item 7: "Have there been any challenges while parenting your child?" (see Appendix C). Comparatively, parents will have less to report to interview item 6: "What have been your greatest accomplishments while parenting?" Parents will also share fewer joyful experiences from their childhood in response to items 2, 2a, and 2b. Based on these predictions, it is likely that the thematic coding of the interviews will include sections for childhood challenges, parenting challenges, and parenting achievements.

Discussion

This research aims to describe the familial consequences for parents facing ADHD. This research will highlight any disparities between parents with and without ADHD. In bringing to light these possible incongruities, further psychological research can explore possible interventions that may improve parenting skills for parents with ADHD. A strength of this study is how it considers subclinical and ADHD subtypes in its design. This specificity allows future interventions to be tailored to specific ADHD populations and the parenting skills that the group struggles with most.

Some limitations of this study include the restricted age groups of the children (ages 9 to 14) and, therefore, does not include data assessing the parenting of adults with older children. Additionally, this research will only include parents of children who have confirmed ADHD diagnoses, limiting the generalizability of any results. Because the participants must speak English and live within the United States, results may not apply to other cultures, populations, or countries. Therefore, future research should include a greater range of ages, cultures, countries, and languages where possible. Including an expanded array of participants will allow for greater generalizability of results and therefore be more pragmatic for real-world applications. The formation of new interventions appears necessary due to the lack of existing interventions created for improving parenting skills for adults experiencing ADHD.

Some limitations of this study include the restricted age groups of the children (ages 9 to 14) and, therefore, does not include data assessing the parenting of adults with older children. Additionally, this research will only include parents of children who have confirmed ADHD diagnoses, limiting the generalizability of any results. Because the participants must speak English and live within the United States, results may not apply to other cultures, populations, or countries. Therefore, future research should include a greater range of ages,

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I.S.L.A.N.D.

Infant Studies of Language and Neurocognitive Development

PI: Natalie Brito
Mentor: Sarah Claire Vogel

The Infant Studies of Language and Neurocognitive Development (ISLAND), directed by Natalie Brito is a developmental psychology lab interested in the impact of the social and language environment on early neurocognitive development. The ultimate goal of the lab is to understand how to best support caregivers and create environments that foster optimal child development.

The Exploration of Postpartum Depression Impact on Parental Intrusiveness

Gabrielle E. Ortecho

Postpartum depression is an important factor to consider when exploring which factors contribute to child development during the postpartum period. Globally, approximately 10% to 13% of women who have given birth or are pregnant have experienced a mental disorder, most commonly depression (World Health Organization, n.d.). In developed countries, these percentages increase to 15.6% of women during pregnancy and 19.8% after childbirth (World Health Organization, n.d.). Numerous studies have demonstrated a strong relationship between maternal mental health, quality of mother-child interaction, and child development (Beck, 1998; O'Connor et al., 2002; Tronick & Reck, 2009). Postpartum depression is a major depressive disorder that typically occurs one month after childbirth (Pearlstein et al., 2009). Mothers affected by postpartum depression will experience sleep and appetite disturbance, loss of energy, feelings of worthlessness or guilt, diminished concentration, and suicidal ideations (Pearlstein et al., 2009). Previous studies have found higher incidences of excessive crying, sleep disruptions, and temperamental difficulties for infants when their mother's postpartum depression remains untreated (Dennis & Ross, 2006; Orhon et al., 2007).

About one out of seven American mothers experience postpartum depression (Pearlstein et al., 2009). Previous research done by the Canadian Paediatric Society shows that postpartum depression influences multiple aspects of the child's early environment, such as caregiving behaviors. The purpose of this paper is to investigate the effect postpartum depression has on parental intrusiveness. The current study will explore whether the parent-child interaction can be influenced by the different degrees of parental intrusiveness due to postpartum depression.

Defining Parental Intrusiveness

Parents who display intrusiveness tend to overstimulate their children during parent-child interactions. Rather than providing a child with scaffolded guidance (e.g., moderating the cognitive load), caregivers who display parental intrusiveness often bombard their child with authoritative demands with little room for flexibility or independence (Biringen & Robinson, 1991). This demand for control can strain the parent-child relationship, which may subsequently impact children's mental health (e.g., anxiety disorders such as separation anxiety) (Wood, 2006). As such, degrees of parental intrusiveness can play a crucial role in the way parents interact with their children; however, this domain can also be impacted by a parent's mental state.

Postpartum Depression and Parent-Child Interactions

Postpartum depression has been associated with negative parenting skills such as less play, lower responsivity, negative discipline, and verbal abuse (Lovejoy et al., 2000). If these parenting behaviors remain frequent and are persistent, they can impact a child's emotional development by internalizing and externalizing problem behaviors learned from the parent (Denham, 1998; Zhou et al., 2002).

Linking Postpartum Depression with Parental Intrusiveness

Postpartum depression plays an important role in shaping the development of a child. Depression is one of the most common mental illnesses to emerge during pregnancy and the perinatal period (Kimmel, 2020). Harris et al. (2018) found that mothers who experience greater psychological distress may be less confident in their parenting skills. This lack of confidence can result in a mother being less intrusive regarding mother-infant interactions (Field, 2010).

The Current Study

The current study examines the relationship between postpartum depression (i.e., depression and anxiety) and parental intrusiveness within the mother-child relationship. We plan to expand upon previous literature by focusing on the effect

parental intrusiveness has on parenting behaviors. We hypothesize that higher degrees of parental intrusiveness will be associated with postpartum depression.

Methods

Participants

One hundred and three families will be recruited from around the New York City metropolitan area. Inclusion criteria for children would include being three months old at the time of the first lab visit, born at or after 37 weeks of gestation, and having no history of neurological or developmental delays. The sample will be limited to families for the current analyses where the mother completed both the still-face and the Edinburgh Postnatal Depression Scale questionnaire.

Measures

Still Face Paradigm

The Still Face Paradigm examines infants' capacity for self-regulation during interactions that interrupt typical patterns of social reciprocity between infants and their mothers (Tronick et al. 1978). The Still Face Paradigm will be used to understand how maternal depression is associated with intrusiveness in times of heightened stress. A three-step paradigm will be used to focus primarily on the reunion phase because this is when the mother-child interaction would be the most stressful and where the most negative behaviors will occur. During the first segment (i.e., baseline), caregivers will be told to sit in front of their infants and play with them. Play will happen without toys and with minimal movement. After two minutes, the caregiver will be told to sit in front of their infants with a neutral face, not responding to their baby (i.e., the still face). The still face phase is usually the most stressful phase for both the infant and caregiver during the paradigm. After two minutes, caregivers will be permitted to play with their infant again (i.e., reunion), just as during baseline. Each segment will last for two minutes.

The interactions will be video recorded, but the reunion phase will be our variable of interest. The Still Face Paradigm will be coded by using the Coding Interactive Behavior (CIB) (Feldman, 1998) measure. The variable that will be focused on is parental intrusiveness. Parental intrusiveness will be coded on a 5-point scale, where 1 denotes a minimal level of the behavior and 5 denotes a maximal level across the 5-minute interaction. An example of parental intrusiveness being scored as a five would be shoving a toy in the infant's face. An example of parental intrusiveness being scored as a 1 would be the caregiver waiting for the infant to engage in the interaction first. Two people will code for each sequence; one person will code for 100% of the sequence, and the other will code for 30%. Both codes will then be compared to determine whether behaviors of parental intrusiveness occurred using Cohen Kappa. An acceptable percentage of agreement using Cohen Kappa would be 0.7.

Edinburgh Postnatal Depression Scale (EPDS)

The EPDS is a 10-item self-report scale used to identify whether a mother has common symptoms of postpartum depression and anxiety between the start of pregnancy to the year following the birth (Perinatal Services BC, n.d.). Of the 10 items, 7 directly measure depression symptoms, while 3 measure anxiety symptoms (Brouwers et al., 2001; Matthey, 2008; Matthey et al., 2013). The questions will require participants to rate on a 4-point Likert scale how strongly they agree to a statement or how strongly they disagree with a statement; 1 being strongly agree and 4 being strongly disagree. Examples of the questions follow: "I have been able to laugh and see the funny side of things" and "I have been anxious or worried for no good reason." The EPDS is a widely used measure of postpartum depression, and evidence for reliability and validity of the scale at detecting postpartum depression has been reported in Cox et al. (1986).

Demographic questionnaire

A demographic questionnaire will be given to gain more information on participants' age, education, and race.

Data Analysis

For analyses, we will be measuring the degree of parental intrusiveness that occurred during the reunion of the still face paradigm. All analyses will be conducted in R. We will create composites for parental intrusiveness, maternal anxiety, and maternal depression by taking the mean of the items within each of the following categories: 1) Parental Intrusiveness (i.e., CIB items of Parental intrusiveness); and 2) Maternal Depression (i.e., EPDS depression-related symptoms). First, we will perform a series of bivariate correlations

correlations to determine if there will be basic associations between our measures of interest. We then will perform a series of regression models with maternal intrusiveness as our outcome of interest and postpartum depression as our main predictor controlling for the effects of socioeconomic status in all regression analyses.

Expected Results

It is expected that there will be an association between postpartum depression and parental intrusiveness. The expectation is that high levels of parental intrusiveness will occur during the reunion phase of the still-face paradigm among mothers suffering from symptoms of postpartum depression.

Discussion

The present proposal examines associations between postpartum depression among mothers and the severity of parental intrusiveness displayed during mother-child interactions. Our expected results would suggest that postpartum depression is positively associated with higher levels of parental intrusiveness. The expectation is that high levels of parental intrusiveness will occur during the reunion phase of the still-face paradigm among mothers suffering from symptoms of postpartum depression.

Previous studies regarding maternal mental health and parent-child interaction (e,g. Oehan et al., 2007; Wood, 2006) have provided an important foundation of knowledge about postpartum depression and parenting. This study will have two limitations to address: the self-report data collected from the Edinburgh Postnatal Depression Scale and the coding of parental intrusiveness. Mothers who were self-reporting themselves may have chosen a more socially acceptable answer rather than being truthful. The coding for parental intrusiveness can be seen as a limitation because parental intrusiveness is all up to interpretation by the coder.

There is a lot of evidence from previous research supporting that postpartum depression hinders child development. Postpartum depression has links to parental intrusiveness, which may lead to children experiencing mental health issues such as separation anxiety in later years (Wood, 2006). Studies such as this one highlight the importance of treating maternal mental health disorders and the importance of helping new mothers experiencing depression and anxiety. Future research should examine how postpartum depression influences parenting, altering children's cognitive development in longitudinal studies. Learning more about postpartum depression and child development would be a helpful step to provide mothers with the best support for themselves and their babies.

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Experiences of Obstetric Racism and Adverse Health Outcomes in Black Mother-Infant Dyads in the United States: The Mediating Role of Maternal Mental Health

Ayomide Popoola

When examining structural barriers within existing communities in any context, it is essential to understand previous relationships the community has had with that system. In these modern times, "racism in the United States is pervasive and is a major contributor to sexual and reproductive health disparities [amongst] African American women" (Prather et al., 2018, p. 250). Decades of literature have shown the detriment of such health disparities in the Black community, specifically when examining Black mother and infant dyad outcomes. Black mothers in the United States are at a higher risk than any other racial group when experiencing pre-, during, and post-pregnancy complications (Dominguez et al., 2008). However, a significant knowledge gap within the medical and psychological community remains regarding how far these effects go when looking at mother and infant mental health outcomes. The vast majority of medical literature around the Black pregnancy experience focuses primarily on mother and infant mortality rates. Very little literature explores how these experiences may contribute to adverse mental health outcomes between Black mother-infant dyads and the mechanisms that potentially cause these heritable responses to racism.

Obstetric Racism and Black Maternal Health

A growing field of literature highlights experiences of pregnant Black women, illustrating that pregnant Black women often encounter racial discrimination while receiving obstetric care (Noursi et al., 2020). This form of discrimination is called obstetric racism, defined by Davis (2018) as the intersection of obstetric violence and medical racism. Obstetric racism is institutional violence perpetrated against women of colour during pregnancy, childbirth, and postpartum periods (Davis, 2018). tGeneral theories of modern medicine established on the exploitation of reproductive Black women and African Americans, which have historically contributed to Black women's experiences and the generational trauma they are often still exposed to in these medical systems they must navigate (Campbell, 2021). Modern examples of obstetric racism include the enigmatic rates of C-sections Black women experience. Approximately 36.8% of cesarian operations occurred in Black women compared to women of other races combined at 32.7% (Huesch & Doctor, 2015). It has been argued that the higher rates of c-sections are directly related to the strikingly higher infant and mother mortality in Black women (Campbell, 2021). In addition, Black women report receiving an inferior quality of obstetric care compared to their white counterparts regardless of socioeconomic status and other external factors. For example, Black women have reported an inability to communicate their needs during pregnancy due to differences in interactions between Black patients and healthcare providers and their institutions (Campbell, 2021).

These experiences of obstetric racism are attributed to the many implicit and explicit biases health care providers and systems promote through the overmedicalization of Black bodies. Biases surround minority experiences and are seen exceedingly in Black women seeking healthcare services, with 30% of Black women in the United States reporting incidents with some form of racial trauma while giving birth in hospitals (Saluja & Bryant, 2021). Furthermore, black women are four to eight times more likely to die during childbirth than white women (Allan, 2020). Beliefs instilled in the minds of many medical practitioners are heavily biologically based and historically include things like thicker skin and less sensitive nerve endings (Saluja & Bryant, 2021). These beliefs have been proven dangerous as they cause health care providers to rate the presence of pain in Black individuals substantially lower, leading to improper care, especially in high-intensity environments such as labour and delivery settings (Saluja & Bryant, 2021). Obstetric racism and other types of medical racism are significantly positively correlated to higher levels of psychological distress amongst Black reproducing women (Prather et al., 2018).

Mental Health Disparities in Black Women

Along the axis of said disparities in Black women, the burden of mental illness plays a significant role

in individual experiences and outcomes; however, it is rarely explicitly acknowledged. Prior research looking at the lifetime prevalence of mental disorders illustrates that Black individuals have a lower lifetime prevalence across all mental illnesses than their white and Latinx counterparts (Alvarez et al., 2018). However, it is crucial to explore the confounding effects that impact these results, such as race, ethnicity, and acculturation. All these confounding factors contribute to the underrepresentation of these numbers. For example, many Black individuals do not report or seek out care for mental health resources due to their disparities in care (Chang et al., 2016). Subsequently, literature has found racial differences in mental health services offered among pregnant women with depressive symptoms (Chang et al., 2016). Which further increases the disparities of care offered to Black individuals, specifically pregnant Black women.

Maternal Experiences of Racism and Infant Cortisol Levels

Maternally experienced racism occurs when a fetus is indirectly exposed to experiences of racism through mothers' experiences of racism during pregnancy (Heard-Garris et al., 2018). Experiences of racism during pregnancy are widely associated with adverse mental health outcomes in Black mothers and infants, including maternal depressive symptoms and stress-induced physiological changes in both mother and fetus (Heard-Garris et al., 2018). These physiological changes seem to persist well after birth to influence infant health outcomes. A previous study reported that Black infants are more likely than white infants to show dysregulated patterns of stress regulation, including elevated levels of the stress hormone cortisol (Dismukes et al., 2018).

Within developmental psychology, Bronfenbrenner argues that children develop within the context of their family environment and the broader social environment (Bronfenbrenner, 1979). Through this ecological lens, experiences such as obstetric racism will impact developing fetuses and infants because, throughout the perinatal period, infant outcomes are highly dependent on maternal outcomes. Previous work revealed connections between infant cortisol levels, race, and maternal reports of socioeconomic status (SES) in infants as early as 12 months of age (Dismukes et al., 2018). Other studies have found that maternal stress during pregnancy is associated with differences in levels of the stress hormone cortisol in infants during the perinatal period

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The Current Study

The current study investigates how maternal depression, anxiety, and stress during the perinatal period mediate perceived experiences of obstetric racism in Black women and cortisol levels in Black infants. We hypothesize that experiences of perceived obstetric racism in Black mothers will lead to higher maternal depression, anxiety, and stress in the perinatal period. We hypothesize that experiences of perceived obstetric racism in Black mothers will lead to higher maternal depression, anxiety, and stress in the perinatal period. Subsequently, we hypothesize that higher maternal depression, anxiety, and stress levels in Black mothers will act as mediators, leading to higher cortisol levels in Black infants. Finally, we hypothesize that experiences of perceived obstetric racism in Black mothers will lead to increased cortisol levels in Black infants.

Methods

Participants

Participants for this study will include 100 pregnant women who identify as African American or Black (e.g., Afro-Caribbean, and Black African) between 18-49 years as those are standard reproductive ages. Study recruitment will occur in several places to ensure socioeconomic diversity amongst participants, including waiting rooms of obstetric practices and children's hospitals, recruitment through significant city-wide events that target pregnant individuals, and lastly, through online

study recruitment sites. Exclusion criteria for the proposed study include individuals experiencing pregnancy complications and other chronic illnesses during pregnancy (e.g., preeclampsia and gestational diabetes). These sorts of complications often impact the quality and quantity of healthcare the individual will receive, outside the scope of this study. Additionally, this study will only include Black women carrying their first pregnancy to full term (e.g., do not have any other biological children at the time of the study).

Study Design

This study will employ a mixed-method longitudinal design incorporating both a qualitative and quantitative component. Furthermore, the study will be descriptive to explore and describe the Black birthing experience through qualitative interviews. The study will also be predictive as it will show a relationship between experiences of obstetric racism in Black mothers and infant cortisol levels. In addition, a test assessing mediation using maternal mental health as a mediator between experiences of obstetric racism and infant cortisol levels will occur at this time.

Measures

Demographics

Participant demographic information will be collected (e.g., age, ethnicity, location, education level, marital/ relationship status, household income, number of individuals household income supports, and employment status) via self-report. Information collected via the demographic questionnaire will allow us to analyze confounding variables.

Experiences of Perceived Obstetric Racism

Experiences of perceived obstetric racism will be measured using a semi-structured qualitative interview, allowing participants to share their experiences with a trained interviewer in a safe and non-judgmental space. The interviewers' identities will mainly comprise other Black people capable of giving birth. Providing a safe space where participants will share narratives following their experiences during pregnancy and childbirth with various health care providers focusing on their obstetric experiences.

Edinburgh Postnatal Depression Scale (EPDS)

The Edinburgh Postnatal Depression Scale consists of 10 items that assess postnatal depression in new mothers. The EPDS uses a Likert scale consisting of 4 options ranging from "most of the time" to "not at all" in alternating order depending on the question. Questions include (e.g., "I had blamed myself unnecessarily when thing went wrong" and "The thought of harming myself has occurred to me") (Cox et al., 1987). Completion time is approximately five minutes, with proven satisfactory psychometric properties. Data suggests that women who score above a threshold of 12/13 are most likely suffering from some depressive illness and should be further asses clinically for mood disorders (Cox et al., 1987). This scale is not a clinical assessment, and low scores do not always mean the absence of depressive symptoms, depression, or other mood disorders (Cox et al., 1987).

Perceived Stress Scale (PSS)

The PSS is a widely used scale for measuring individuals' perceptions of stress applied to many different populations (Cohen et al., 1994). It consists of 10 items that assess an individual's experience with unpredicted stress over a month. This Likert scale is rated using the following options: 0-never, 1- almost never, 2- sometimes, 3- fairly often, 4- very often. Examples of items on this questionnaire include "In the last month, how often have you been upset because of something that happened unexpectedly" (Cohen et al., 1994). Psychometrically, this test is proven to have high predictive validity with higher PSS scores associated with several adverse outcomes, including greater vulnerability to depressive symptoms elicited from stressful life events (Cohen et al., 1994).

Infant Cortisol Levels

Hair cortisol levels have indicated chronic stress amongst humans, including infants and children (Liu et al., 2017). This method of cortisol collection can capture the cumulative amount of stress an individual has endured producing results that more accurately efficiently measure chronic stress levels than other methods of cortisol collection (e.g., salivary, blood, and stool; Liu et al., 2017). Research shows this is the ideal measure for assessing stress exposure in vulnerable populations such as children and infants (Liu et al., 2017).

Procedure

Participants selected for this study will be contacted by a researcher and given complete information about the study to provide informed consent. Participants are allowed to withdraw their consent at any time throughout the study. After obtaining informed consent, participants' demographic information will be collected before the start of the study. All procedures for the proposed study will be reviewed by the host university's Institutional Review Board (IRB).

Time 1 (T1) of this study will occur when the participant is one month postpartum and will consist of a semi-structured interview to capture the individuals' potential experiences with obstetric racism. Each interviewer will be trained according to CITI training and study protocols for working with human subjects and vulnerable populations. Additionally, interviewers will participate in training administered by the primary investigator on conducting ethical, safe, and culturally component semi-structured interviews with individuals in our sample. Each interviewer will undergo a series of practice interviews with the primary investigator and other research team members. The estimated time for each interview is approximately 60 minutes, with extra time in the end for participants to debrief with their interviewer or another team member if they are experiencing any psychological distress post-interview. Interviews will be recorded using a digital recorder and transcribed by a trusted transcription service. After transcription, all personal identifiers will be discarded, and participants will be assigned a participant code moving forward to maintain confidentiality.

At three months postpartum, time 2 (T2) will occur, and each participant will be administered both the Edinburgh Postnatal Depression Scale (EPDS) and the Perceived Stress Scale (PSS). This information will be essential to understanding changes in maternal mental health that occur postpartum that make new mothers more susceptible to adverse mental health outcomes at this stage of the perinatal period.

Finally, at nine months postpartum (T3), participants will be given another consent form for the infant, providing consent for hair samples to be collected. Approximately 3 centimetres of hair will be collected from the infant to capture cumulative cortisol levels in the past three months. These samples will be outsourced to a lab in the New York area, where processing and assay will measure the cumulative cortisol in each infant's hair sample.

Planned Analysis

Qualitative Analysis

Qualitative data produced during the interviews with the participants will be analyzed using conventional qualitative content analysis to extract experiences of obstetric racism from the sample population. Qualitative content analyses aim to describe a potential phenomenon when existing literature is limited (Hsieh & Shannon, 2005). This method begins with preliminary coding, which consists of reading through each interview and identifying passages of potential importance based on the studies' proposed research question (Goold et al., 2007). After several run-throughs of each transcript, codes will become more refined, and themes will emerge and develop from the analysis. A codebook will be used to organize codes created by the multiple researchers coding the project—with information including code names, definitions, and examples of codes that fit each category (Goold et al., 2007). As code definitions become homogenous amongst researchers, a coding agreement for all interviews will be established to better conceptualize the process (Goold et al., 2007).

Quantitative Analysis

Using the scores from the EPDS and the PSS questionnaires, bivariate correlations will be run for each variable of interest. Additionally, further statistical tests will analyze the mediating relationship between a composite of maternal depression, anxiety, stress, and obstetric racism, and infant cortisol. Simple descriptive statistical information for each variable will also be evaluated using R studio.

Anticipated Results

From the semi-structured qualitative interviews, we anticipate prominent themes to emerge as the primary goal of each interview is to capture individual experiences of Black mothers and obstetric racism. However, due to the lack of literature examining the proposed issue, and the complex nature of each individual's experiences, no a priori hypothesis about the content of the themes that may emerge

emerge during the interviews can be made. This proposed study expects to see a positive relationship between the severity of experiences of obstetric racism in Black women and higher levels of maternal depression, anxiety, and stress. Specifically, we expect to see that Black women who have more experiences of obstetric racism will have higher levels of maternal depression, anxiety, and stress. Subsequently, we expect higher maternal depression, anxiety, and stress levels associated with higher infant cortisol levels. Additionally, maternal mental health will likely mediate the relationship between maternal experiences of obstetric racism and infant cortisol levels. More experiences with obstetric racism will be associated with higher rates of maternal mental health symptoms, and higher levels of maternal mental health symptoms will be related to higher cortisol levels in Black infants.

Discussion

Harmful maternal experiences have been associated with abnormal infant cortisol levels, with Black infants showing the most significant dysfunction in their HPA axis (Dismukes et al., 2018). In this study, we expect to see positive indirect relationships between experiences of obstetric racism in Black mothers and elevated infant cortisol levels in Black infants, mediated by increased rates of poor maternal mental health. Based on previous literature, we expect maternal depression, anxiety, and stress will positively correlate to increased cortisol levels in infants.

This study proposal is the first, to our knowledge, to examine associations between obstetric racism, maternal mental health, and infant stress physiology. The study intends to demonstrate that Black mothers who experience more racism, particularly in obstetric environments during the perinatal period, may have increased mental health symptoms, particularly depression, anxiety, and stress. While no studies, to our knowledge, have directly assessed how obstetric racism specifically influences maternal mental health, there is some research to suggest that experiencing racism, broadly construed, is associated with poorer mental health (Prather et al., 2018). This finding comes with significant undertones as medical literature highlights the importance of perinatal experiences, specifically early postpartum, on both mother and infant outcomes. Many stressful experiences during the early postpartum period positively correlate with significant hormonal and neurological changes in mothers (Schiller et al., 2014). While additionally contributing to adverse hormonal outcomes, including elevated cortisol levels in Black infants (Schiller et al., 2014), which can lead to distinct cognitive, behavioural, and developmental trajectories throughout development. Conclusions from this study can lead to a better understanding of how systemic racism, such as the aggressions carried out by obstetricians, has a transgenerational impact on infant cortisol levels through adverse maternal experiences. Identifying these barriers to quality care for Black mothers and infants while naming these aggressions can help understand how to alleviate healthcare disparities between black individuals and the health care system.

Strengths and Limitations

The proposed study design focuses on a marginalized and vulnerable societal group, Black mothers, and infants, through their lens instead of a comparative lens (e.g., comparing racial group outcomes) by using a qualitative approach to capture the individual and unique experiences of Black mothers in their own words. An additional strength of our study is the socioeconomic diversity of our sample, allowing us to capture a wide range of Black obstetric health experiences. The proposed study will also utilize well-accepted maternal depression, anxiety, and stress measures. Ultimately, its biggest strength lies in the fact that this topic is a current gap in literature across interdisciplinary fields.

One limitation of this study remains that it is currently limited to individuals who identify as Black and women. Future studies should consider the experiences of Black trans and nonbinary people who can give birth. To understand how intersectionality influences interactions with obstetric health systems and subsequent mental health and infant outcomes. Another limitation is the small sample size, recruited only from neighbourhoods in New York. Future studies should examine experiences of obstetric racism and its outcomes in samples from less diverse communities and rural areas, as these individuals may have differential experiences with obstetric care, where they receive it and how they navigate it.

Implications and Future Direction

Findings from this research pose several important implications across developmental, clinical, cultural, and social psychology. The lessons learned from this study can be informative and crucial in changing how we train physicians, specifically obstetricians,

as they work with vulnerable groups. A step further, yet very necessary, is to name these systemically ingrained acts of aggression and categorize obstetric racism for what it is, a public health crisis—leading to adverse maternal mental health outcomes in Black mothers. A unique aspect of this study is that its descriptive nature creates a safe space for Black women's perspectives to be voiced. Research needs to acknowledge that acts of racism have real significant outcomes for Black mothers and children. This proposed study should be considered a call to action for researchers in psychology to amplify marginalized communities' voices while advocating and creating sustainable change within systems to lessen the disparities.

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