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**Maternal Race Related Stressors
and Adolescents' Outcomes**

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by

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Dedication

I first dedicate this thesis to my parents, Jan and Jim. Mom, thank you for always answering my calls and chatting for hours at a time. With your help I survived these past two years. Dad, your physical absence only pushed me to do better and work harder. I keep your words of encouragement in my thoughts daily; I miss you dearly. Third, to my brother, Alex, thank you for your unwavering support and kind heart. Lastly, this work is dedicated to my partner, Jacob. Thank you for pushing me through the hard days and laughing with me through the easy ones.

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Abstract

Maternal Race Related Stressors and Adolescents' Outcomes

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Ethnic-racial minority individuals are still experiencing race-related stressors at high rates. Research has predominantly focused on personal experiences of discrimination; however, individuals may experience vicarious discrimination as well as anticipated discrimination. Families create an important context for exploring the transmission of race-related stressors. Using a national sample of African American mothers ($N = 318$), the current study explored the relation between mothers' experiences of race-related stressors and adolescent outcomes, as well as indirect pathways through maternal depressive symptoms and involved vigilant parenting using path analysis in Mplus 8.2. Mothers' personal racial discrimination experiences were positively related to maternal depressive symptoms and adolescents' internalizing and externalizing problem behaviors and indirectly related to mothers' involved vigilant parenting through maternal depressive symptoms. Anticipated racial discrimination was positively related to

mothers' involved vigilant parenting. Further, the pathway between mothers' involved-vigilant parenting and adolescents' externalizing problem behaviors was significantly different and stronger for mothers of girls relative to mothers of boys. Additionally, the pathway between mothers' vicarious racial discrimination and mothers' depressive symptoms was marginally stronger for mothers of boys relative to mothers of girls. The study findings create a more comprehensive view of how race-related stressors and how they are related to functioning in African American families.

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Chapter 1: Introduction

Although our society undergoes frequent change, racial discrimination and prejudice are continuing aspects of daily lives among many racial ethnic minority individuals (Pieterse & Powell, 2016). Generally, African Americans report the highest amount of race-related stressors (Herda, 2016) and a majority of African Americans report experiencing race-related stressors at a high rate. For example, in a sample of African Americans, 99.9% reported some form of race-related discrimination in the past year (Woods-Giscombé & Lobel, 2008). Race-related stressors, including personal experiences of racial discrimination (e.g., direct interaction with other individuals), vicarious racial discrimination (e.g., witnessing or hearing about another person's racial discrimination experience; Agnew, 2002), and anticipated racial discrimination (e.g., fear or worry that one may be discriminated against in the future; Utsey et al., 2013) have been associated with poorer mental health outcomes (Banks, Kohn-Wood, & Spencer, 2006; Murry, Brown, Brody, Cutrona, & Simmons, 2001; Tran, 2014), higher substance use for parents and adolescents (Gibbons, Gerrard, Cleveland, Wills, Brody, 2004), and declined physical health (Phelan & Link, 2015; Pieterse & Powell, 2016; Schulz et al., 2006) for African Americans. There is increased attention to race-related stressors and their relation to individuals and those in their environments; however, previous research has focused mainly on personal experiences of racial discrimination compared to vicarious racial discrimination and anticipated racial discrimination experiences.

There are strong implications of race-related stressors beyond the individual experiencing them (Anderson et al., 2015). To better understand these implications, it may be essential to focus on the family relationship as these relationships are typically most proximal. Specifically, African American parents' experiences of race-related stressors may be related to their

adolescents' outcomes (Gee, Walsemann, & Brondolo, 2012; McNeil Smith, Harris-McKoy, Brantley, Fincham, Beach, 2014). African American parents report higher levels of race-related stressors when compared to Hispanic and White American parents (Herda, 2016). Further, Herda (2016) found that African American parents also reported more anticipated racial discrimination when compared to Hispanic and White American parents. Additionally, African American families' racial discrimination experiences were found to be negatively related to the quality of the family relationship, specifically the parent-adolescent relationship, including higher conflict between parent and child (Riina & McHale, 2010).

Although some work has explored the relation between parental race-related stressors and adolescent outcomes (Anderson et al., 2015; McNeil Smith et al., 2014), there is a still lack of understanding of the mechanisms by which parents' race-related stressors are related to adolescents' outcomes (Brody et al., 2008). It is possible that parental race-related stressors are related to their own psychological functioning and impair positive parenting which would then be related to their adolescent's outcomes. For example, in a study of ethnically diverse mothers and their children, mothers' experiences of racial discrimination were related to higher reported depressive symptoms, which were then associated with their children's problem behaviors (Tran, 2014). Considering these associations, more attention should be focused on direct and indirect relations between parental experiences of race-related stressors and the outcomes for their adolescent. Further, a more comprehensive set of race-related stressors such as personal, vicarious, and anticipated racial discrimination experienced by mothers should be examined for links to adolescents' outcomes

Guided by the Family Stress Model (Conger, Ge, Elder, Lorenz, & Simons, 1994; McLoyd, 1990), the current study aims to examine how different race related stressors

experienced by mothers are related to adolescent outcomes by analyzing a data set of mothers' race-related stressors and adolescent academic outcomes and problem behaviors through maternal depressive symptoms and involved vigilant parenting behaviors. This will be accomplished in three steps. First, I will examine how race-related stressors (i.e., personal, anticipated, and vicarious racial discrimination) are related to adolescent internalizing and externalizing problem behaviors, academic persistence, and grades. I plan to focus on these three race-related stressors, as vicarious and anticipated racial discrimination may be experienced by mothers just as often as personal experiences of racial discrimination. There is also evidence that links vicarious and anticipated racial discrimination to depressive symptoms and parenting behaviors (Becares et al., 2015; Lindström, 2008; McNeil Smith & Sun, 2014; Varner & Mandara 2013), which I will discuss further in upcoming sections. Additionally, focusing on just one or two race-related stressors may underestimate the number of race-related stressors an individual may experience. Second, I will determine if there are indirect effects between race-related stressors and adolescent internalizing and externalizing problem behaviors, academic persistence, and grades through maternal depressive symptoms and maternal involved vigilant parenting. Third, I will explore adolescent gender differences in the relations among maternal race-related stressors, maternal depressive symptoms, involved vigilant parenting, and adolescent internalizing and externalizing problem behaviors, academic persistence, and grades.

THEORETICAL FRAMEWORK

The Family Stress Model (Conger et al., 1994; McLoyd, 1990) will guide the current study to better understand the processes by which race-related stressors experienced by mothers are related to their adolescents' outcomes. This model provides specific mechanisms by which mothers' economic stressors are linked to adolescent outcomes. The Family Stress Model

focuses on financial stress within a family and how it is related to not only the individual, but also strains family relationships. Financial stress has been linked to depressive symptoms and inter-parental conflict, which are positively associated with adolescent behavior problems (Landers-Potts et al., 2015; Simons et al., 2016). Financial strain is also associated with parenting practices. For example, when experiencing financial strain, parents may engage in harsh or inconsistent parenting and provide less support and infrequent monitoring (Masarik & Conger, 2017). These types of parenting are linked to higher problem behaviors in African American adolescents (Simons et al., 2016), as well as lower school readiness for African American children (Iruka, LaForett & Odom, 2012).

Financial strain has been the main focus of the Family Stress Model; however, McNeil Smith and Landor (2017) argue that the Family Stress Model should be expanded to include multiple stressors such as class, race, skin tone and gender. Additionally, Masarik and Conger (2017) believe that the Family Stress Model is a useful framework for a multitude of environmental stressors that families may experience. Many researchers have adapted this model to include other stressors that are related to family functioning and child outcomes. Hou, Kim, and Wang (2016) examined the relation between acculturative stress of Asian American parents and their children's depressive symptoms, behavior, and academic achievement using the Family Stress Model. In another study, Chinese American families' parental perceived racial discrimination was examined as the stressor in the Family Stress Model and was argued to be more impactful compared to economic stress (Hou, Kim, Hazen, & Benner, 2017). To my knowledge an adapted version of the Family Stress Model has not been used to examine the relation between race-related stressors family functioning in African American families.

However, the original model has been tested and validated on samples of African American mothers (Iruka, LaForett, & Odom 2012; Landers-Potts et al., 2015; McLoyd, 1990).

Similar to financial stress there is a positive association between race-related stress and mothers' depressive symptoms (Tran, 2014) and mothers' parenting (Brody et al., 2008). Mothers may become distant or neglectful when they experience higher psychological dysfunction due to race-related stressors. Similarly, when experiencing racial discrimination, the mother may change her parenting practices (Brody et al., 2008). As a result, their children may perform poorer in school or have higher problem behaviors due to the racial discrimination experienced by the mother (McNeil Smith et al., 2014). Lower positive parenting have been found to alter adolescent development through reduced school performance and higher negative behaviors (Oyserman, et al., 2005).

Therefore, the current study will adapt the Family Stress Model to better understand how mothers' experiences of race-related stressors are related to maternal psychological functioning, involved vigilant parenting, and adolescents' internalizing and externalizing problem behaviors, academic persistence, and grades. It is important to note that the current study is not using the Family Stress Model in its entirety as it is lacking unique components of inter-parental conflict and an objective measure of socioeconomic status, but does include self-reports of relationship status, family income, and education, as well as race-related stress, depressive parenting and adolescent outcomes. The following sections will discuss race-related stressors, the links between these race-related stressors and mothers' depressive symptoms and parenting behaviors, and the possible indirect pathways to adolescent problem behaviors and academic outcomes.

PERSONAL RACIAL DISCRIMINATION EXPERIENCES

Stress as a result of racial discrimination experiences is not a novel topic; researchers have been examining the links between race-related stressors and adverse outcomes for decades. However, most of this work was conducted using personal experiences of racial discrimination (Broman, Mavaddat, & Hsu, 2000). Few studies have examined links between different types of race-related stressors and family processes. Individuals can experience race-related stressors in ways other than personal racial discrimination including vicarious and anticipated racial discrimination. These race-related stressors may be related to mothers' depressive symptoms and involved vigilant parenting which may have implications for their adolescent's problem behaviors and academic outcomes.

Personal racial discrimination experiences encompass instances of unfair treatment due to one's membership in a particular racial group. These experiences happen at an interpersonal level, through direct interaction with other individuals and can occur through verbal or non-verbal actions or statements (Harrell, 2000). Personal racial discrimination experiences can also occur in different settings such as one's school, neighborhood, work, or in public spaces (Krysan & Farley, 2002). Personal experiences of racial discrimination appear to be the most commonly studied form of race-related stress (Heard-Garris, Cale, Camaj, Hamati, & Dominguez, 2018).

Personal experiences of racial discrimination are related to the individual as well as those around them. Specifically, parents' reports of racial discrimination experiences in the past year were positively linked to their reports of depressive symptoms in the past week (Tran, 2014). Additionally, African American parents' experiences of racial discrimination in the past year have been positively linked to higher personal depressive symptoms as well as higher depressive symptoms of their children (McNeil Smith & Sun, 2014). In another study by McNeil Smith et al. (2014), parents' personal racial discrimination experiences were positively related to their

children's externalizing problem behaviors. Additionally, in a sample of 163 Black families, parents' personal experiences of racial discrimination were positively related to their children's emotional problems, including their internalizing behavior and depressive symptoms (Anderson et al., 2015). Racial discrimination has also been shown to create conflict within the parent-child relationship (Riina & McHale, 2010). Lastly, experiencing worsening mental health due to racial discrimination has been linked to higher substance use for parents as well as their children (Gibbons et al., 2004).

VICARIOUS RACIAL DISCRIMINATION EXPERIENCES

Vicarious racial discrimination is another form of race-related stress and occurs when one witnesses or hears about a racial discrimination experience that happened to someone else and can occur in different contexts (Agnew, 2002; Harrell, 2000; Heard-Garris et al., 2018). An individual may witness events that happened to friends, family members, or strangers. They may also view instances of racial discrimination on the news, social media platforms such as Facebook, or hear about them from others. In Tynes, Giang, Williams, and Thompson's (2008) study, 71% of African Americans, 71% of White Americans, and 67% of multiracial individuals in their sample witnessed one type of vicarious racial discrimination in the form of online racial discrimination in their lifetime. Additionally, in a study by Brody et al., (2008), 87% of the African American mothers in their sample reported one or more experience of vicarious racial discrimination at some point during the three year study. It is possible that individuals who experience vicarious racial discrimination may believe they are vulnerable to similar unfair treatment and the adverse outcomes of racial discrimination (Truong, Museus & McGuire, 2016). As discussed, there are many ways an individual can experience vicarious racial discrimination. More exposure may increase the chance that vicarious racial discrimination may

be related to the family and its members through the relation between parental depressive symptoms and decreased positive parenting (Heard-Garris et al., 2018). Therefore, the current study includes vicarious racial discrimination as it has implications for the individual experiencing the event, as well as those close to the individual. By exploring vicarious racial discrimination, in addition to personal racial discrimination, the study may be able to capture more experiences of race-related stressors experienced by African American mothers.

ANTICIPATED RACIAL DISCRIMINATION EXPERIENCES

Anticipated racial discrimination, or racial discrimination concerns, is the fear or worry that one may be racially discriminated against in the future. Herda (2016) found that about half of the African Americans in his sample feared experiencing at least one racial discrimination experience in the past year. This fear was more common among African Americans compared to White Americans in his study, 52% and 32% respectively. Comparatively, in a study by Eskilson and Wiley (1999) White Americans were less than half as likely to report concerns for future racial discrimination compared to racial-ethnic minority individuals in the sample. Similar to personal and vicarious race-related stressors, parents' anticipated racial discrimination has also been shown to have implications for their children. African American children are influenced more by their parents' fears of racial discrimination compared to their parents' actual experiences of racial discrimination through the children's increased awareness of their own risks (Herda, 2016). Furthermore, the stress that comes from anticipating racial discrimination among pregnant mothers has potentially adverse health outcomes for their child, as anticipated racial discrimination was linked to preterm birth (Braveman et al., 2017). Additionally, anticipated racial discrimination may also be associated with less positive parenting of adolescent children (Varner & Mandara 2013) and maternal depressive symptoms.

The three different types of race-related stressors described above are commonly experienced by African American individuals; however, personal experiences of racial discrimination have been the focus of previous literature. Exploring links between each of the race-related stressors will capture a more comprehensive understanding of how race-related stressors are related to adolescents' problem behaviors academic outcomes through African American parents' depressive symptoms and involved vigilant parenting. In the following paragraphs I will discuss how race-related stressors are positively related to parental depressive symptoms and negatively related to involved vigilant parenting behaviors as well as the possible indirect effects of these variables on adolescent externalizing and internalizing problem behaviors, academic persistence, and grades.

RACE-RELATED STRESSORS AND MATERNAL DEPRESSIVE SYMPTOMS

As mentioned above, race-related stressors are a predictor of numerous detrimental outcomes for African American mothers and their children. For example, psychological functioning has been widely examined as an outcome of race-related stressors for African American mothers (McNeil et al., 2014; Murry et al., 2001; Tran, 2014). African American mothers' experiences of race-related stressors within the past year, racial discrimination as the most reported, were positively linked to their experiences of psychological distress, sadness, nervousness, and worthlessness within the past month (Tran, 2014). Comparatively, Schulz et al. (2006) tracked changes in racial discrimination and mental health outcomes for African American women aged 18 and older over the course of two waves of data and found that changes in frequency of racial discrimination experiences were associated with changes in reported mental health symptoms. Lifetime personal experiences of racial discrimination, as well, were

found to be positively related to African American mothers' depressive symptoms reported in the previous week (McNeil et al., 2014).

Additionally, African American mothers' reports of perceived interpersonal and vicarious racial discrimination were linked to higher depressive symptoms. In Riina and McHale's (2010) study, mothers' experiences of racist insults, disrespectful treatment, and being treated unfairly, as well as witnessing family members being treated unfairly, were related to poorer mental health two years later. Moreover, anticipated discrimination based on race and cultural background has been linked to poorer psychological health outcomes among men and women in Sweden (Lindström, 2008). African American parents, who report the highest amount of anticipated discrimination, may be at a higher risk for poorer psychological health due to these experiences of anticipated racial discrimination (Herda, 2016). The following section will discuss the relations between maternal race-related stressors and adolescent outcomes via pathways through maternal depressive symptoms.

RACE-RELATED STRESSORS, MATERNAL DEPRESSIVE SYMPTOMS, AND ADOLESCENT OUTCOMES

As described above African American mothers' experiences of race-related stressors have been linked to worsening of their own mental health. However, less is known about the transmission of race-related stressors from parent to adolescent (Brody et al., 2006) and the relation between parental race-related stressors and adolescent academic outcomes and problem behaviors. One pathway by which race-related stressors may be indirectly related to adolescent outcomes is through higher parental depressive symptoms (Anderson et al., 2015).

For instance, Boyd, Diamond, & Have (2011) found that when African American mothers reported higher levels of depressive symptoms they also reported more externalizing behaviors for their children. Additionally, African American mothers' depressive symptoms

were linked to higher reports of problem behaviors by mothers as well as higher problem behaviors reported by teachers (Fihrer, McMahon, & Taylor, 2009). In another sample of mothers, greater amounts of experienced racial discrimination was linked to higher reports of depressive symptoms over the past month, which was then associated with their children's problem behaviors, such as being a bully or cruel to others (Tran, 2014). Lastly, when controlling for other stressful life events, maternal depressive symptoms mediated the relation between maternal experiences of personal racial discrimination and children's externalizing behaviors (McNeil et al., 2014). It is possible that mothers' depressive symptoms at many different points in the adolescents' life may alter their children's behavior problems.

Moreover, mothers' depressive symptoms as a result of race-related stressors may also be associated with lower academic outcomes for their adolescents as mothers' depressive symptoms and child outcomes have been consistently linked. For example, in a nationally representative sample of 2,461 African American mothers and their biological children, mothers' depressive symptoms were negatively related to their children's math and reading achievement (Baker & Iruka, 2013). The mothers' depressive symptomatology was also linked to lower home learning stimulation which may have further reduced their children's reading and math achievement. Claessens, Engel, and Curran (2015) found an association between persistent maternal depression while their children were in kindergarten and first grade, and lower academic achievement and higher absences while in third and fifth grade. Maternal depressive symptoms also predicted child's withdrawal behavior, which was negatively related to their academic achievement as reported by teachers (Yan & Dix, 2014).

As described above, depressive symptoms have been consistently related to negative outcomes for children. However, research is needed to examine whether different types of race-

related stressors (personal, vicarious, and anticipated) are associated with adolescent problem behaviors and academic outcomes through maternal depressive symptoms. Additionally, a mechanism through which maternal depressive symptoms may be related to adolescent outcomes is through parenting practices which I will describe in the following paragraphs.

RACE RELATED STRESSORS, INVOLVED-VIGILANT PARENTING, AND ADOLESCENT OUTCOMES

In the current study we will use the construct involved-vigilant parenting to examine mothers' parenting behaviors. Involved-vigilant parenting is constructed of four components: vigilance, problem solving, inductive reasoning, and inconsistent discipline. The involved-vigilant parenting measure has been widely used with African American families in previous research, assessing various outcomes (Brody et al., 2001; Brody et al., 2005; Kim, Brody, & Murry, 2003; Murry et al., 2014). Vigilance, sometimes referred to as monitoring, is parents' awareness of what is occurring in their child's life, their knowledge of where the child is during the day, and who the child spends their time with. Problem solving is the collaboration between parent and child to work out issues within the family and within the child's life. Inductive reasoning incorporates how the parent explains the reasoning behind their rules and discipline to the child. Lastly, inconsistent discipline, is how much the parents' discipline tactics depend on the mood that they are in. High levels of involved-vigilant parenting include higher vigilance, problem solving and inductive reasoning and lower inconsistent discipline.

The individual constructs of involved-vigilant parenting have been linked to different adolescent outcomes. For example, vigilance has been linked to the development of self-regulation in African American youth and further related to fewer conduct problems and greater academic achievement across three years (Kim et al., 2003). Problem solving has been linked to less risky sexual behavior and a delay in the first consumption of alcohol (Murry et al., 2014).

Higher inductive reasoning has been found to be negatively related to risky behaviors in African American adolescents (Murry et al., 2014). Inconsistent discipline as reported by children and caregivers has been positively related to children's association with deviant peers (Brody et al., 2001). Further, harsh and inconsistent discipline are positively associated with substance-using peer affiliation and overall vulnerability to risk (Murry et al., 2013).

The total construct of involved vigilant parenting has also been linked to a variety of adolescent outcomes. In Brody et al. (2005) high levels of involved vigilant parenting were positively related to early adolescent self-control. Additionally, involved-vigilant parenting is positively related to adolescent academic outcomes through adolescent self-regulation (Kim et al., 2003). Further, high levels of involved vigilant parenting were negatively associated with child aggressive behavior (Brody et al., 2002). Research has also shown that involved-vigilant parenting can serve as a protective factor for children as it is negatively related to the affiliation with substance using peers and can buffer children from engaging in future risky behaviors (Hurd et al., 2013; Murry, et al., 2013).

It is possible that race-related stressors may be related to interactions between parents and their children and be negatively related to parenting. For example, in a sample of 156 African American mothers and fathers, racial discrimination experienced by the parents was shown to affect the quality of the family relationship, specifically the parent-adolescent relationship, including conflict between parent and child (Riina & McHale, 2010). When mothers experienced personal racial discrimination such as unfair treatment or racist insults, they were more likely to parent in a harsh manner (Becares et al., 2015). Similarly, African American mothers' personal experiences of racial discrimination were not only related to harsh parenting but lower reports of positive parenting (Brody et al., 2008). In another study by Murry et al.

(2014), high levels of involved-vigilant parenting decreased when the mothers experienced personal racial discrimination.

Additionally, African American mothers' race-related stressors were positively related to their depressive symptoms and therefore, may be associated with poorer parenting and in turn be related to their children's outcomes. For example, when parents experienced racial discrimination, their depressive symptoms increased, which were related to undesirable parenting practices and related to higher child emotional problems (Anderson et al., 2015). Additionally, researchers found that mental health problems were negatively related to competence promoting parenting, comprised of involved-vigilant parenting and parent-child discussion quality, one year later (Brody, et al., 2002). Conversely, competence promoting parenting was positively associated with child cognitive and social competence indirectly through child self-regulation. In a similar study, mothers' perceived personal and vicarious racial discrimination led to worsened depressive symptoms and lower reports of involved vigilant parenting practices (Brody et al., 2008).

Previous studies have explored various pieces of the current study and indicated links between race-related stressors, maternal depressive symptoms, and lower positive parenting behaviors across time, as well as between parenting behaviors and adolescent outcomes. These findings suggest that parenting and depressive symptoms may provide an indirect pathway through which maternal race related stressors are related to adolescent problem behaviors and academic outcomes. More research is needed to examine how personal, vicarious, and anticipated racial discrimination experiences each are negatively related to parenting practices and adolescent academic outcomes and problem behaviors. The current study will explore all of these mentioned links in a single model.

DIFFERENCES DUE TO ADOLESCENT GENDER

It is possible that the relations between mothers' race-related stressors and adolescent outcomes through maternal depressive symptoms and parenting may differ by adolescent gender. For example, mothers who experienced racial discrimination were shown to racially socialize their sons and daughters differently (McNeil Smith, Reynolds, Fincham, Beach, 2016). There were significant associations between perceived racial discrimination and racial socialization techniques (i.e., cultural socialization, promotion of mistrust, and preparation for bias) for mothers of daughters, but only one significant association between perceived racial discrimination and preparation for bias for mothers of sons. Further, mothers of daughters may parent differently compared to mothers of sons, as mothers of daughters may more closely relate to their daughter's race-related experiences due to similarity in gender. Mothers may try to protect their daughters against race-related experiences they themselves endured (McNeil Smith et al., 2016). Further, mothers may have heightened concerns that their sons will experience future race-related stressors (Varner & Mandara, 2013).

Conversely, other aspects of parenting such as involved vigilant parenting can also differ by gender. In Varner et al., (2018) being a female child was associated with more involved vigilant parenting. Moreover, African American mothers of daughters have been rated as warmer and more encouraging when compared to mothers of sons and these mothers of daughters were less likely to be negative with their daughters (Mandara, Murray, Telesford, Varner, & Richman, 2012). These differences in parenting may exist as mothers have been shown to have different expectations for their sons and daughters. Mothers also have higher educational expectations for daughters in contrast to mothers of sons (Wood, Kaplan, & McLoyd, 2007). Lastly, there may gender differences in behavior as African American girls are more likely to display internalizing

behaviors and African American boys are more likely to display externalizing behaviors (Sanchez, Lambert, & Cooley-Strickland, 2013).

Chapter 2: Current Study

I will use a sample of African American mothers to examine three race-related stressors, personal, anticipated, and vicarious racial discrimination, and determine if they are related to adolescent internalizing and externalizing problem behaviors, academic persistence, and grades. Then, I will assess if there are indirect pathways from race-related stressors through maternal depressive symptoms and maternal involved-vigilant parenting to adolescent outcomes using path analyses. I will also test this model using multi-group analyses by gender to explore differences in the relations between race-related stressors, mental health, and parenting on adolescent outcomes. I hypothesize that maternal personal, anticipated, and vicarious racial discrimination will each be negatively related to adolescent academic and positively related to problem behavior outcomes. In particular, I hypothesize that personal racial discrimination experiences will be more strongly related to adolescents' outcomes compared to vicarious and anticipated racial discrimination experiences as personal racial discrimination experiences are more direct and stressful experiences.

Further, I hypothesize that there will be indirect pathways between race-related stressors and adolescent outcomes through maternal depressive symptoms and parenting practices. In addition, I also anticipate a direct negative association between maternal depressive symptoms and involved-vigilant parenting and that maternal depressive symptoms will be indirectly related to adolescent outcomes through involved-vigilant parenting. Lastly, I hypothesize that these relations will differ by adolescent gender. I expect to see a stronger relationship between mothers' parenting and depressive symptoms with adolescents' externalizing problem behaviors for mothers of boys compared to mothers of girls. Additionally, I believe there will be stronger relations between parenting and maternal depressive symptoms with girls' internalizing problem

behaviors for mothers of girls relative to mothers of boys. Using the Family Stress Model to examine the pathways by which these three different types of race-related stressors are related to adolescent outcomes may provide researchers with a more comprehensive understanding of how race-related stressors are related to family processes and adolescents' outcomes.

I will also test an alternative model testing whether adolescent behaviors influence mothers' parenting and depressive symptoms, as well as perception of race-related stressors. It is possible that higher reports of adolescents' problem behaviors and lower reports of adolescents' grades are linked to increased reports of mothers' depressive symptoms and involved vigilant parenting. Additionally, mothers with higher levels of depressive symptoms may have higher perceptions of discrimination during social interactions and therefore report higher race related stressors. When adolescents have higher problem behaviors and lower academic persistence and grades mothers' may report higher race related stressors due to possibly poor interactions within their adolescent's school personnel.

Chapter 3: Method

PARTICIPANTS

Study participants were drawn from a survey of 324 mothers who identified as African American or Black and lived in the United States. The final sample consisted of 318 mothers after one participant was excluded for not responding to their adolescent's gender and five participants were excluded for missing data on at least nine measures. The mothers were age 18 to 67 years old ($M = 43$ years old) and each had an adolescent between the ages 11-18 (53.7% female, $M = 15$ years old). It was possible that the mothers in our sample would have more than one child so for the purpose of the current study the mothers were instructed to answer all questions pertaining to one of their children of their choosing referred to as the "target child" in each of the measures. Range of family income was from \$10,000 and under to \$150,000 and up and median family income reported by mothers was 50,000 to 59,999. Maternal education ranged from junior high school or less to doctoral degree and mothers' median education level was an associates or trade degree. In the sample, 25.9% of mothers had a high school diploma or less, 14.8% had an associate degree, 23.5% had a bachelor's degree, and 16.4% had graduate degrees. Lastly, marital status included never married 33.3%, divorced 13.3%, separated 4%, or widowed 2.5% and 46.6% of the mothers in the sample were married.

PROCEDURE

Cross-sectional data were collected using Survey Sampling International, an online data collection service that compensates eligible participants for completing surveys using online currency. In order to ensure that our survey was capturing African American mothers, individuals who fit the inclusion criteria, as listed on a profile that participants created when signing up, were contacted through Survey Sampling International with a link to the survey.

Survey Sampling International received seven dollars per participant and the participants who successfully completed the survey were compensated by Survey Sampling International in a form of online incentives such as points that could be redeemed for prizes. At the start of the survey, participants were prompted with an informed consent form. To gain consent, one item asked participants if they read and understood the consent form and desired to participate.

The participants had to check yes to this item to continue. After giving consent, participants had to correctly answer eligibility questions in order to proceed on to the entire survey. To be eligible the participants must have been an adult over the age of 18, identified their race and ethnicity as African American or Black, identified as female, and at the time must have had at least one child between the ages 11-18. If any of these questions were not answered with the eligibility criteria the participant was directed to the end of the survey. The overall survey captured data on topics such as mothers' parenting behaviors, parenting expectations, their coping skills, racial identity, race-related stressors, as well as their adolescents' behaviors and school performance.

When using a platform such as Survey Sampling International, an anonymous and online form of data collection, careless responding can be of some concern for the quality of data collected (Meade & Craig, 2012). Careless responding occurs when participants ignore the instructions of the survey or answer incorrectly due to lack of motivation or inattentiveness (Huang, Curran, Keeney, Poposki, & DeShon, 2012). Therefore, in addition to the measures listed below, items to identify careless responding were included. Such items direct participants to choose a specific response such as, 'Please select "Rarely" for this item.' All participants were expected to have the same response to these questions; therefore, we were able to identify a

participant who was carelessly responding to the survey. Individuals who responded incorrectly to more than one of these careless responding items were screened out during data collection.

MEASURES

Personal Racial Discrimination Experiences

A modified version of the Everyday Discrimination Scale (Williams, Yu, Jackson, & Anderson, 1997) was used to assess the mothers' personal racial discrimination experiences. This scale has been frequently used with a variety of African American samples examining different outcomes (Banks et al., 2006; Earnshaw et al., 2016; Hudson, Neighbors, Geronimus, & Jackson, 2016; Watkins, Hudson, Caldwell, Siefert, & Jackson, 2011). This scale consisted of 10 items with response choices on a 6-point Likert type scale from 1 (*never*) to 6 (*almost every day*). Sample items included, "you are treated with less courtesy than other people" and "people act as if they think you are not smart." Higher scores on the Every Day Discrimination Scale indicated that a participant had experienced higher levels of personal discrimination ($\alpha = .91$). The scale is designed to capture multiple experiences of discrimination such as gender, racial, and religious, but for the purpose of the current study the question's directions were modified to prompt the participant to think about discrimination because of their race.

Vicarious Racial Discrimination

To measure vicarious racial discrimination experiences, four items were asked of mothers. The first question asked mothers about the frequency of their children's racial discrimination experiences. The next three items asked mothers to report on other racial discrimination experiences they have witnessed or heard about. The items included, "How often in the past year did you witness or hear about a friend or family member (other than the target child) being treated unfairly because of his or race?" "How often in the past year have you heard

in the news or on social media about a Black person being treated unfairly because of his or her race?” and “How often in the past year have you heard in the news or on social media about a Black person you did not know being treated unfairly because of his or her race?” Response options were on a 6-point Likert type scale, 1 (*never*) to 6 (*almost every day*). This measure of vicarious racial discrimination was created for the purposes of the survey and an average score was created ($\alpha = .76$).

Anticipated Racial Discrimination

Mothers responded to an additional question that measured their anticipation of experiencing racial discrimination in the future, “I believe that there is a good chance that I will experience racism in the future.” Response choices followed a seven-point Likert type scale from 1 (*strongly disagree*) to 7 (*strongly agree*). This item is from the Prolonged Activation and Anticipatory Race-Related Stress Scale (PARS; Utsey et al., 2013). The PARS has been tested and validated on samples of African American adults (Utsey et al., 2013).

Maternal Depressive Symptoms

To assess maternal depressive symptoms a modified version of the Center for Epidemiologic Studies-Depression Scale (CES-D; Radloff, 1977) was used. The CES-D Scale is a 20-item self-report measure that assesses self-reported depressive symptoms of the general population, different from measures used in clinical settings. Response choices followed a 4-point Likert type scale, 0 = rarely or none of the time (*less than one day*), 1 = some or a little of the time (*one to two days*), 2 = occasionally or a moderate amount of time (*three to four days*), and 3 = most or all of the time (*five to seven days*). For the purpose of the current study, 11 items from the CESD will be used including a previously used modified 10-item CES-D measure (Andresen, Carter, Malmgren, & Patrick, 1994) and an additional item to include somatic

symptoms which have been found to be higher among African Americans (Murry, et al., 2001). Response choices for the modified CES-D 10 scale are consistent with the original 4-point Likert type scale. Sample items for the previously modified scale include, “I felt fearful” and “I had trouble keeping my mind on what I was doing” with an additional item, “I did not feel like eating; my appetite was poor.” The scale responses were summed with possible scores from zero to 33, higher scores denoting more depressive symptoms (Radloff, 1977). For the analysis of this data the CESD scale was summed and examined as a total score ($\alpha = .83$).

Maternal Involved-Vigilant Parenting

The Involved-Vigilant Parenting scale (IVP) was used to assess different styles of parenting within our sample. Mothers answered 20-items that have been previously used for the Family and Community Health Study and influenced by the Iowa Youth and Families Project (Conger & Elder, 1994) and frequently used with African American families in previous research (Brody et al., 2001; Brody et al., 2005; Hurd, Varner, & Rowley, 2013; Kim et al., 2003; Murry et al., 2014; Varner et al., 2018). Items consisted of four different subscales, *vigilance* (5 items; e.g., “in the course of a day, how often do you know where your child is?”), *inconsistent discipline* (5 items; e.g., “once a discipline has been decided, how often can your child get out of it?”), *inductive reasoning* (5 items; e.g., “how often do you give reasons to your child for your decisions?”), and *problem solving* (5-items; e.g., “how often does your child talk to you about things that bother your child?”). Parents were asked to respond to these parenting questions on a 5-point Likert type scale from never (1) to always (5). A composite variable was created for involved-vigilant parenting by averaging all items for the current study ($\alpha = .77$).

Adolescent Academic Outcomes

Academic performance of the target child was assessed by mothers' report of two different measures. First, mothers reported *grades* on their child's report card. Response choices included "mostly A's", "mostly B's", "mostly C's", "mostly D's", "mostly F's", and "unsure/do not know." An additional 6-item measure was also used to assess their target child's *academic persistence*. Sample items included, "my child enjoys learning new things" and "my child keeps working on new things even when they are difficult." Response choices were a 6-point Likert type scale from (1) strongly disagree to (6) strongly agree. For the purpose of the current study, for academic persistence a composite variable was created for by averaging scores for all six of the items ($\alpha = .80$).

Adolescent Problem Behaviors

To measure the target child's problem behaviors, the Behavior Problems Index (BPI; Peterson & Zill, 1986) was administered. Mothers responded to 24 items about the target child's behavior over the past three months on a 3-point scale, not true (1), sometimes true (2), and always true (3). The BPI consists of two overarching scales with 12 items reflecting internalizing behaviors, 11 items reflecting externalizing behaviors, and one item that mapped onto both scales and was used on both scales. Sample items include, "bullies or is cruel to other children," "has trouble getting along with other children," and "has sudden changes in mood or feeling." The BPI is one of the most frequently used measures in the National Longitudinal Study of Youth as both an outcome and a predictor of other outcomes (Bureau of Labor Statistics, n.d.). The current study used summed scores for internalizing ($\alpha = .86$) and externalizing behaviors ($\alpha = .89$).

Demographic information

The participants responded to demographic items to gain a better understanding of the collected sample as well as the ability to control for variables in the analysis. The survey asked participants about their total family income, gender, age, race, ethnicity, educational attainment, and marital status. The current study controlled for family income (i.e., “what is your total annual family income?”), adolescents’ age, and participants’ educational attainment (i.e., “what is your highest level of education achieved?”), marital status (i.e., “what is your current marital status?”), and age. Adolescent gender will also be used as a covariate in analyses except when it is used in multi-group analysis.

Chapter 4: Analytic Approach

Multiple steps were taken during data analysis. First, correlation analyses were conducted to examine the relations between study variables. Second, in order to examine direct and indirect pathways between study variables, path analyses were conducted in Mplus 8.2 (Muthen & Muthen, 1998-2016). The first model contained all study variables as well as covariates. Both direct and indirect effects were run simultaneously. Second, an alternative model was run with adolescent outcomes predicting race-related stressors directly and indirectly through mothers' depressive symptoms and involved vigilant parenting (Figure 2). It is possible that higher reports of adolescents' problem behaviors and lower reports of adolescents' grades are linked to increased reports of mothers depressive symptoms and involved vigilant parenting. Additionally, mothers with higher levels of depressive symptoms may have higher perceptions of discrimination during social interactions and therefore report higher race related stressors. When adolescents have higher problem behaviors and lower academic persistence and grades mothers' may report higher race related stressors due to possibly poor interactions within their adolescent's school personal, conversely if their adolescent has lower problem behaviors and higher academic persistence and grades they may report lower instances of race related stressors. The third model tested for group differences using adolescents' gender. Lastly, Wald tests were conducted using parameter constraints to test modeled pathways across adolescents' gender.

Chapter 5: Results

DESCRIPTIVE STATISTICS

First, correlation analysis was conducted between key study variables (Table 1). Positive correlations were present between mothers' personal racial discrimination experiences and the following variables: mothers' vicarious racial discrimination ($r = .55, p < .001$), mothers anticipated racial discrimination ($r = .40, p < .001$), mothers' depressive symptoms ($r = .31, p < .001$), and internalizing ($r = .39, p < .001$) and externalizing problem behaviors ($r = .32, p < .001$). Mothers' personal racial discrimination experiences were negatively related to mothers' age ($r = -.18, p = .002$), adolescents' academic persistence ($r = -.23, p = .03$), and grades ($r = -.13, p = .02$). Mothers' vicarious racial discrimination was positively correlated with the following variables: mothers' anticipated racial discrimination experiences ($r = .40, p < .001$), mothers' depressive symptoms ($r = .21, p < .001$) and adolescents' internalizing ($r = .26, p < .001$) and externalizing ($r = .17, p = .002$) problem behaviors. Mothers' anticipated racial discrimination experiences were positively correlated with the following variables: mothers' depressive symptoms ($r = .11, p = .04$), mothers' involved vigilant parenting ($r = .14, p = .02$), and adolescents' externalizing problem behaviors ($r = .13, p = .02$).

Mothers' depressive symptoms were negatively correlated with mothers' involved vigilant parenting ($r = -.24, p < .001$), mothers' age ($r = -.26, p < .001$), adolescents' academic persistence ($r = -.25, p < .001$), and grades ($r = -.19, p = .001$) Mothers' depressive symptoms were positively correlated with internalizing ($r = .51, p < .001$) and externalizing ($r = .46, p < .001$) problem behaviors. Mothers' involved vigilant parenting was positively correlated with adolescents' academic persistence ($r = .41, p < .001$) and grades ($r = .22, p < .001$), and negatively correlated with internalizing ($r = -.31, p < .001$) and externalizing ($r = -.41, p < .001$) problem behaviors. Adolescents' internalizing problem behaviors were positively correlated with

externalizing problem behaviors ($r = .71, p < .001$) and negatively correlated with mothers' age ($r = -.24, p < .001$), adolescents' academic persistence ($r = -.41, p < .001$), and grades ($r = -.35, p < .001$). Adolescents' externalizing problem behaviors were negatively correlated with mothers' age ($r = -.21, p < .001$), adolescents' academic persistence ($r = -.56, p < .001$), and grades ($r = -.48, p < .001$). Adolescents' academic persistence was positively correlated with mothers' age ($r = .18, p = .001$) and adolescents' grades ($r = .56, p < .001$). Lastly, mothers' education was negatively correlated with adolescent age ($r = -.12, p = .04$) and positively correlated with total family income ($r = .34, p < .001$).

DIRECT EFFECTS

Next, path analyses were run to test the relation between mothers' race related stressors and adolescent problem behaviors through mothers' depressive symptoms and involved vigilant parenting. The fit for the first proposed model, Figure 1, was good, $\chi^2(18) = 28.07, p = 0.061$, CFI=0.99, RMSEA = .042, 90% CI [.000, .071], SRMR = .032. Significant positive direct effects existed between mothers' personal racial discrimination experiences and mothers' depressive symptoms ($\beta = .23, p = .001$), adolescents' externalizing ($\beta = .16, p = .03$), and adolescents' internalizing problem behaviors ($\beta = .19, p = .004$). Additionally, a significant positive direct effect existed between mothers' anticipated racial discrimination experiences and mothers' involved vigilant parenting ($\beta = .15, p = .007$). Mothers' depressive symptoms were positively related to adolescents' internalizing ($\beta = .36, p < .001$) and externalizing problem ($\beta = .30, p < .001$) behaviors and negatively related to their involved vigilant parenting ($\beta = -.26, p < .001$). Lastly, mothers' involved vigilant parenting was negatively associated with adolescents' internalizing ($\beta = -.20, p < .001$) and externalizing ($\beta = -.34, p < .001$) problem behaviors and

positively associated with adolescents' grades ($\beta = .20, p = .002$) and academic persistence ($\beta = .38, p = <.001$).

ALTERNATIVE MODEL

An alternative model with adolescent outcomes predicting race-related stressors directly and indirectly through mothers' depressive symptoms and involved vigilant parenting (Figure 2) was run to investigate best model fit $\chi^2(24) = 45.42, p = .005$, (CFI = .95), (RMSEA) = .053, [.027, .076], (SRMR) = .046, which resulted in poorer model fit than the original proposed model therefore the original model was retained. A chi square difference test indicated the alternative model and the proposed model were significantly different from one another ($\Delta \chi^2(6) = 17.12, p < .01$).

INDIRECT EFFECTS

Bias corrected bootstrap methods using 1000 iterations were used to estimate indirect effects using Mplus 8.2 (Muthen & Muthen, 1998-2016). Significant specific indirect effects existed between mothers' personal racial discrimination experiences and mothers' involved vigilant parenting ($\beta = -.06, p = .01$), adolescents' internalizing ($\beta = .08, p = .003$), and externalizing ($\beta = .07, p = .004$) problem behaviors through mothers' depressive symptoms. Additionally, total indirect effects were present for mothers' personal racial discrimination experiences and adolescents' internalizing ($\beta = .10, p = .002$) and externalizing ($\beta = .05, p = .001$) problem behaviors through mothers' depressive symptoms and involved vigilant parenting. Significant indirect effects existed between mothers' anticipated racial discrimination and adolescents' academic persistence ($\beta = .06, p = .02$), and internalizing ($\beta = -.03, p = .03$) and externalizing ($\beta = -.05, p = .02$) problem behaviors through mothers involved vigilant parenting. Mothers' depressive symptoms were significantly indirectly related to adolescent' grades, ($\beta = -$

.05, $p = .01$), academic persistence ($\beta = -.10, p < .001$), and internalizing ($\beta = .05, p = .001$) and externalizing ($\beta = .09, p < .001$) problem behaviors through involved vigilant parenting.

GENDER DIFFERENCES

Then, an unconstrained model was estimated to compare groups by adolescents' gender and model fit remained, $\chi^2(30) = 35.14, p = .238$, (CFI = .993), (RMSEA) = .033, [.000, .071], (SRMR) = .041. A chi square difference test was run to compare a model with all paths constrained to be equal across adolescents' gender and an unconstrained model where paths were freed across adolescents' gender. These models were not significantly different from each other ($\Delta\chi^2(12) = 7.01, p = .85$). Wald tests of parameter constraints were conducted to examine differences in adolescent gender across pathways in the conceptual model. A significant difference existed in the pathway from mothers' involved vigilant parenting to externalizing problem behaviors (Wald $\chi^2 = 4.40, p = .04$). Unexpectedly, this association was stronger for daughters ($\beta = -.40, p < .001$) compared to sons ($\beta = -.25, p = .002$). There was also a marginally significant difference in the pathway from mothers' vicarious racial discrimination and mothers' depressive symptoms (Wald $\chi^2 = 3.70, p = .05$). This pathway was significant for mothers of boys ($\beta = .25, p = .008$) but not significant for mothers' of girls ($\beta = -.05, p = .67$).

INDIRECT EFFECTS BY GENDER

Bias corrected bootstrap methods were used to estimate indirect effects by gender. Among mothers of boys, a marginally significant indirect effect existed between mothers' vicarious racial discrimination experiences and involved vigilant parenting through mothers' depressive symptoms ($\beta = -.05, p = .05$). Additionally, significant indirect effects were present between mothers of boys' vicarious racial discrimination and internalizing ($\beta = .11, p = .02$) and externalizing ($\beta = .07, p = .03$) problem behaviors through mothers' depressive symptoms. Total

indirect effects were present for mothers of boys' vicarious racial discrimination and boys' internalizing ($\beta = .10, p = .04$) problem behaviors through mothers' depressive symptoms and involved vigilant parenting. Further, there were significant indirect effects between mothers' depressive symptoms, academic persistence ($\beta = -.08, p = .02$) and externalizing ($\beta = .06, p = .03$) problem behaviors through mothers' involved vigilant parenting.

Among mothers of girls, significant indirect effects existed between mothers' personal racial discrimination experiences and their involved vigilant parenting ($\beta = -.10, p = .03$), adolescents' internalizing problem behaviors ($\beta = .10, p = .02$), and adolescents' externalizing problem behaviors ($\beta = .10, p = .01$) through mothers' depressive symptoms. Additionally, significant indirect effects existed between mothers' depressive symptoms and girls' grades ($\beta = -.08, p = .02$), academic persistence ($\beta = -.11, p = .004$), internalizing problem behaviors ($\beta = .06, p = .02$), and externalizing problem behaviors ($\beta = .11, p = .001$) through mothers' involved vigilant parenting. Lastly, total indirect effects were present between mothers' personal racial discrimination experiences and their daughter's grades ($\beta = -.10, p = .04$), academic persistence ($\beta = -.11, p = .04$), and internalizing ($\beta = .14, p = .003$) and externalizing ($\beta = .16, p = .003$) problem behaviors through mothers' depressive symptoms and involved vigilant parenting.

Chapter 6: Discussion

Guided by an adapted version of the Family Stress Model (Conger et al., 1994; McLoyd, 1990), the current study aimed to explore the relation between mothers' race-related stressors (i.e., personal, anticipated, and vicarious) and adolescents' internalizing and externalizing problem behaviors, academic persistence, and grades. Further, the current study aimed to examine if these relations were explained by mothers' depressive symptoms and involved vigilant parenting. Previous research that has examined mothers' race-related stressors and adolescent outcomes focused mainly on personal experiences of racial discrimination. The current study adds to this previous literature by including mothers' experiences of vicarious and anticipated racial discrimination.

Personal, vicarious, and anticipated racial discrimination were differently related to mothers' depressive symptoms, mothers' involved vigilant parenting, and adolescents' academic outcomes and problem behaviors. As hypothesized, maternal personal racial discrimination was related to worse outcomes. Maternal personal racial discrimination experiences were directly related to maternal depressive symptoms. Mothers' personal racial discrimination experiences were also indirectly related to adolescents' internalizing and externalizing problem behaviors through maternal depressive symptoms. This is consistent with previous literature which found that greater amounts of experienced racial discrimination led to higher reports of mothers' depressive symptoms over the past month, which was then associated with their children's problem behaviors (Tran, 2014).

Additionally, we found that mothers' personal racial discrimination experiences were directly related to their adolescents' internalizing and externalizing problem behaviors beyond the contributions of mothers' depressive symptoms and involved vigilant parenting.

In previous research, which used the Family Stress Model with African American families examining financial strain, the economic stressors that families experienced were indirectly linked to higher internalizing and externalizing problem behaviors for their adolescents (Conger, Wallace, Sun, Simons, McLoyd, & Brody, 2002). Comparably, it is possible that adolescents are aware of their mothers' personal racial discrimination or even witness their mothers' racial discrimination experiences which may lead to higher reports of adolescents' behavior problems. Adolescents may be less likely to know about or witness mothers' vicarious or anticipated racial discrimination.

Unexpectedly, anticipated racial discrimination was related to better maternal and adolescent outcomes directly and indirectly. Anticipated racial discrimination was directly related to higher involved vigilant parenting for mothers and indirectly related to higher academic persistence for adolescents. Additionally, mothers' anticipated racial discrimination was indirectly related to academic persistence through involved vigilant parenting. In contrast, when examining economic strain using the Family Stress Model, researchers indicated correlations between economic strain and increased intrusive parenting and lower reports of sensitive parenting. It is possible that when mothers' anticipate racial discrimination they become more involved in their children's lives, possibly to protect their children from experiencing their own racial discrimination and this may lead higher involved vigilant parenting practices. Previous research has also found links between mothers' perceptions of racial discrimination for their children and more mother involvement with their child, particularly in a school setting when considering the parent teacher relationship (Rowley, Helaine, & Banerjee, 2010).

Lastly, mothers' anticipated racial discrimination experiences were not related to mothers' depressive symptoms. It is possible that the fear or worry of a racial discrimination experience is related to more vigilance in the mothers in our sample. This may be why in our sample, anticipated racial discrimination is related to more involved vigilant parenting behaviors and indirectly related to fewer in adolescent internalizing and externalizing problem behaviors and higher academic persistence and grades. This is not to say that anticipated racial discrimination is beneficial for families because these experiences are related to higher mothers' involved vigilant parenting and are not related to depressive symptoms in our sample. Research using a better developed measure of anticipated racial discrimination is needed to fully understand how experiences of anticipated racial discrimination may lead to active coping within families. It may also be beneficial to examine other psychological health outcomes such as anxiety.

There were no significant direct or indirect pathways present in the total model when examining mothers' vicarious racial discrimination. The consequences of vicarious racial discrimination may be different compared to personal or anticipated racial discrimination. It may be easier to disassociate oneself from an discrimination experience that is not happening directly to them by attributing the other person's discrimination experience to unsure characteristics.

Type of race-related stressors also matters in terms of mothers' depressive symptoms and parenting. Positive associations were present between mothers' personal racial discrimination experiences and mothers' depressive symptoms as hypothesized in this direction. Previous research that used an adapted version of the Family Stress Model found similar links between mothers' reported personal racial discrimination and mothers' depressive symptoms (Hou et al., 2017) and parenting (Hou et al., 2016). These personal racial discrimination experiences can be

in the form of racist insults, disrespectful treatment, and being treated unfairly, which are negatively related to mental health outcomes (Riina & McHale, 2010). Additionally, racial discrimination experienced by parents can be negatively related to the quality of the family relationship, including more conflict between parent and child (Riina & McHale, 2010).

DIFFERENCES BY ADOLESCENT GENDER

Different race-related stress experiences were meaningful for mothers of boys and mothers of girls. Vicarious racial discrimination was marginally positively related to mothers' depressive symptoms among mothers of boys but not among mothers of girls. Additionally, mothers' vicarious racial discrimination was indirectly related to mothers parenting and sons' internalizing and externalizing problem behaviors through mothers' depressive symptoms. Maternal vicarious and anticipated racial discrimination may be more salient for mothers of boys. Previous research has indicated the disproportionate prevalence of racial discrimination experienced by African American men through higher rates of incarceration, criminal profiling, harsh sentencing, and more reports of every day discrimination (Eberhardt, Davies, Purdie-Vaughns, & Johnson, 2006; Stolzenberg, D'Alessio, & Eitle, 2013; Williams et al., 1997). It is possible that mothers of boys' vicarious discrimination experiences are more strongly related to their depressive symptoms due to the high visibility on traditional and social media of African American boys and men experiencing racial discrimination in cases such as Trayvon martin and Michael Brown for example (Dow, 2016; Thomas & Blackmon, 2015).

The current study hypothesized that mothers' depressive symptoms and involved vigilant parenting would be differently linked to adolescent outcomes for mothers of girls and mothers of boys. However, mothers' depressive symptoms and involved vigilant parenting overall have similar associations to adolescent outcomes for mothers of boys and mothers of girls. Mothers'

depressive symptoms were positively related to adolescents' internalizing and externalizing problem behaviors. Additionally, mothers' involved vigilant parenting was related to similar outcomes for mothers of boys and mothers of girls. Involved vigilant parenting was negatively related to adolescents' internalizing and externalizing problem behaviors. There was a significantly different pathway between mothers' parenting and adolescent externalizing problem behaviors with a stronger negative association for mothers of girls. Previous research has found that mothers are closer with their daughters and therefore maternal parenting may be more related to their daughters compared to mothers of sons which resulted in involved-vigilant parenting being more strongly negatively related to daughters' externalizing problem behaviors than sons (Shanahan, McHale, Crouter, & Osgood, 2007).

Furthermore, involved vigilant parenting was positively related to adolescents' academic persistence for both mothers of boys and girls. These results are consistent with previous research that has found involved-vigilant parenting to be positively related to adolescent academic outcomes (Kim et al., 2003) and negatively associated with child aggressive behavior (Brody et al., 2002). Research has also shown that involved-vigilant parenting can serve as a protective factor for children (Hurd et al., 2013; Murry, et al., 2013) which may be why we see lower problem behaviors and higher academic persistence. These findings suggest that mothers' involved vigilant parenting is a useful tool to reduce problem behaviors and beneficial for academic outcomes for adolescents; however, experiencing depressive symptoms, possibly due to racial discrimination experiences, can undermine involved vigilant parenting for mothers. Future interventions may target experiences that contribute to decreases in involved vigilant parenting.

LIMITATIONS AND FUTURE DIRECTIONS

Though this study adds to the previous literature, there are a few limitations to address. First, this study used an adapted version of the Family Stress Model, however; the model was not used in its entirety. The current study did not include objective measures of income or measures of interparental conflict, however; to begin to address this we controlled for total family income and marital status in the analyses. Second, this study was conducted with cross sectional data which limits the interpretation of the findings. However, an alternative model (Figure 2) was tested to investigate best model fit. In the alternative model, problem behaviors, academic persistence and grades predicted race-related stressors directly and indirectly through mothers' depressive symptoms and involved vigilant parenting. Additionally, mothers' depressive symptoms predicted mothers' involved vigilant parenting. This model resulted in poorer model fit than the original proposed model and the proposed model also better fit the theory, therefore we retained the original model.

Additionally, adolescent outcomes were reported by mothers. Shared method variance may inflate the relation between these study variables. Future studies should obtain adolescent report and potentially explore congruence or incongruence between adolescent and mother report of problem behaviors and academic outcomes. Further, the current study used only one item to measure mothers' anticipated racial discrimination. This measure would benefit from being expanded to further explore its relation to mothers' involved vigilant parenting. Future research may incorporate items of mothers' anticipated racial discrimination for their adolescents to examine how it is related to their adolescents' outcomes. Despite these limitations, the current study uses the Family Stress Model to emphasize the value of examining different types of race-related stressors (i.e., personal, vicarious and anticipated) when examining racial discrimination and its relation to family functioning.

CONCLUSIONS

The current study adapted the Family Stress Model to examine how maternal race-related stressors are associated with their adolescents' outcomes via pathways through maternal depressive symptoms and involved vigilant parenting. This is the first study to my knowledge that used an adaptive version of the Family Stress Model to examine the role of African American mothers' experiences of race-related stressors in family processes and adolescent outcomes. While most research examining racial discrimination typically examines personal racial discrimination, the current study contributes to previous literature by examining mothers' anticipated and vicarious racial discrimination alongside personal racial discrimination experiences.

The study findings highlight that personal, vicarious, and anticipated racial discrimination have different relations with maternal psychological functioning, parenting, and adolescent outcomes and that the relations between race-related stressors, maternal mental health, parenting, and adolescent outcomes can differ by adolescent gender. Overall findings indicated that personal racial discrimination experiences were associated with more maternal depressive symptoms and more adolescents' internalizing and externalizing problem behaviors. Mothers' anticipated racial discrimination experiences were related to higher mothers' involved vigilant parenting which led to lower reports of adolescents' internalizing and externalizing problem behaviors and higher academic engagement. Lastly, consistent with previous literature, the current study found links between mothers' depressive symptoms and adolescents' internalizing and externalizing problem behaviors directly and indirectly through mothers' involved vigilant parenting. These findings create a more comprehensive view of race-related stressors in African American families. Anticipated and vicarious racial discrimination are related to family

functioning and should be considered when creating interventions, policy, or examining individual and family outcomes.

These findings underscore that racial discrimination does not need to be personally or directly experienced for there to be negative outcomes for the individual or those in their immediate environment. By focusing only on personal experiences of racial discrimination researchers may not be capturing an inclusive snapshot of the racial discrimination experiences of African American individuals and therefore these measures should be more widely incorporated. It is essential for organizations such as schools to be aware of racial discrimination experienced by all members of the community including family members as there are consequences for adolescents' academic outcomes and problem behaviors.

Appendix

TABLES

Table 1. Descriptive statistics and zero-order correlations among study variables

	<i>M</i>	<i>SD</i>	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Personal Discrimination	2.51	1.12	—												
2. Vicarious Discrimination	3.07	1.16	.55***	—											
3. Anticipated Discrimination	5.43	1.63	.40***	.40***	—										
4. Depressive Symptoms	19.52	6.30	.31***	.21***	.11*	—									
5. Involved Vigilant Parenting	3.94	.42	-.05	.11	.14*	-.24***	—								
6. Externalizing Problem Behaviors	4.96	5.09	.32***	.17**	.13*	.46***	-.41***	—							
7. Internalizing Problem Behaviors	3.86	4.32	.39***	.26***	.11	.51***	-.31***	.75***	—						
8. Academic Persistence	4.03	.80	-.12*	-.05	-.01	-.25***	.40***	-.56***	-.41***	—					
9. Grades	4.24	.80	-.13*	-.04	.002	-.19**	.22***	-.48***	-.35***	.56***	—				
10. Female ¹	.54	.50	.10	-.004	.02	.02	-.04	.04	.12*	.05	.05	—			
11. Parent age	26.11	8.47	-.18**	-.07	.06	-.26***	.12	-.21***	-.24***	.18**	.04	-.07	—		
12. Adolescent age	5.25	2.26	.01	.06	-.10	-.04	-.04	-.05	.01	-.06	.01	.01	.08	—	
13. Mothers' Education	6.43	4.56	-.02	-.01	.07	-.06	.004	-.04	.002	.04	.03	-.02	.10	-.05	—
14. Total Income	4.95	2.00	.10	.07	.08	-.07	-.04	.04	.02	.002	.07	.003	-.07	-.12*	.34***

Note. N = 318, ¹dummy variables of adolescent gender, with male as reference group. *p < .05, **p < .01, ***p < .001.

Table 2. Direct Effects of Study Variables

	β	S.E.	p
Internalizing Problem Behaviors			
Personal Discrimination	.19	.08	.004
Vicarious Discrimination	.11	.06	.07
Anticipated Discrimination	-.02	.05	.72
Depressive Symptoms	.36	.05	<.001
Involved Vigilant Parenting	-.20	.05	<.001
Parent Age	-.09	.05	.05
Adolescent Age	.02	.04	.73
Female	.08	.04	.07
Mothers' Education	-.00	.05	.98
Marital Status	.04	.05	.42
Total Income	.04	.05	.43
Externalizing Problem Behaviors			
Personal Discrimination	.16	.07	.03
Vicarious Discrimination	.01	.06	.90
Anticipated Discrimination	.08	.05	.16
Depressive Symptoms	.30	.05	<.001
Involved Vigilant Parenting	-.34	.05	<.001
Parent Age	-.08	.05	.13
Adolescent Age	-.04	.05	.44
Female	-.00	.04	.96
Mothers' Education	.03	.05	.50
Marital Status	.02	.05	.65
Total Income	-.03	.05	.60
Grades			
Personal Discrimination	-.14	.08	.09
Vicarious Discrimination	.04	.08	.63
Anticipated Discrimination	.02	.06	.71
Depressive Symptoms	-.10	.06	.12
Involved Vigilant Parenting	.20	.06	.002
Parent Age	-.03	.07	.64
Adolescent Age	.01	.05	.79
Female	.08	.05	.13
Mothers' Education	.07	.06	.27
Marital Status	.06	.06	.28
Total Income	.01	.06	.92
Academic Persistence			
Personal Discrimination	-.03	.07	.62
Vicarious Discrimination	-.01	.07	.84
Anticipated Discrimination	-.03	.06	.59
Depressive Symptoms	-.12	.06	.07
Involved Vigilant Parenting	.38	.05	<.001
Parent Age	.11	.06	.06
Adolescent Age	-.07	.05	.18
Female	.08	.05	.10
Mothers' Education	.01	.05	.92

Table 2: Continued

Marital Status	.02	.05	.74
Total Income	.01	.05	.79
Depressive Symptoms			
Personal Discrimination	.23	.07	.001
Vicarious Discrimination	.10	.07	.16
Anticipated Discrimination	-.01	.06	.83
Parent Age	.20	.05	<.001
Adolescent Age	-.05	.05	.35
Female	-.02	.05	.71
Mothers' Education	-.13	.06	.04
Marital Status	-.06	.06	.27
Total Income	.01	.07	.93
Involved Vigilant Parenting			
Personal Discrimination	-.08	.08	.29
Vicarious Discrimination	.12	.08	.12
Anticipated Discrimination	.15	.08	.008
Depressive Symptoms	-.26	.06	<.001
Parent Age	.02	.06	.73
Adolescent Age	-.04	.05	.42
Female	-.03	.06	.64
Mothers' Education	-.06	.06	.35
Marital Status	-.02	.06	.35
Total Income	-.01	.06	.93

Note. $N = 318$

Table 3. Total and Specific Indirect Effects of Study Variables

	Total	Direct	Indirect
Personal Discrimination → Internalizing Problem Behaviors	.30***	.19**	.11**
Personal Discrimination → Depressive symptoms → Internalizing			.08**
Personal Discrimination → Involved Vigilant Parenting → Internalizing			.02
Personal Discrimination → Depressive Symptoms → Involved Vigilant Parenting → Internalizing			.10*
Personal Discrimination → Externalizing Problem Behaviors	.28***	.16*	.12**
Personal Discrimination → Depressive symptoms → Externalizing			.07**
Personal Discrimination → Involved Vigilant Parenting → Externalizing			.03
Personal Discrimination → Depressive Symptoms → Involved Vigilant Parenting → Externalizing			.02*
Personal Discrimination → Academic Persistence	-.12	-.03	-.10*
Personal Discrimination → Depressive symptoms → Academic Persistence			-.02
Personal Discrimination → Involved Vigilant Parenting → Academic Persistence			-.02
Personal Discrimination → Depressive Symptoms → Involved Vigilant Parenting → Academic Persistence			-.01
Personal Discrimination → Grades	-.19*	-.14+	-.05*
Personal Discrimination → Depressive symptoms → Grades			-.03
Personal Discrimination → Involved Vigilant Parenting → Grades			-.03
Personal Discrimination → Depressive Symptoms → Involved Vigilant Parenting → Grades			-.01+
Personal Discrimination → Involved Vigilant Parenting	-.15	-.08	-.06*
Vicarious Discrimination → Internalizing Problem Behaviors	.13*	.11+	.02
Vicarious Discrimination → Depressive symptoms → Internalizing			.04
Vicarious Discrimination → Involved Vigilant Parenting → Internalizing			-.02
Vicarious Discrimination → Depressive Symptoms → Involved Vigilant Parenting → Internalizing			.01
Vicarious Discrimination → Externalizing Problem Behaviors	.01	.01	-.00
Vicarious Discrimination → Depressive symptoms → Externalizing			.03
Vicarious Discrimination → Involved Vigilant Parenting → Externalizing			-.04
Vicarious Discrimination → Depressive Symptoms → Involved Vigilant Parenting → Externalizing			.01
Vicarious Discrimination → Academic Persistence	.01	-.01	.02
Vicarious Discrimination → Depressive symptoms → Academic Persistence			-.01
Vicarious Discrimination → Involved Vigilant Parenting → Academic Persistence			.04
Vicarious Discrimination → Depressive Symptoms → Involved Vigilant Parenting → Academic Persistence			-.01
Vicarious Discrimination → Grades	.05	.04	.01
Vicarious Discrimination → Depressive symptoms → Grades			-.01
Vicarious Discrimination → Involved Vigilant Parenting → Grades			.02
Vicarious Discrimination → Depressive Symptoms → Involved Vigilant Parenting → Grades			-.01
Vicarious Discrimination → Involved Vigilant Parenting	.09	.12	-.03

Table 3: Continued

Anticipated Discrimination → Internalizing Problem Behaviors	-.05	-.02	-.04
Anticipated Discrimination → Depressive symptoms → Internalizing			-.00
Anticipated Discrimination → Involved Vigilant Parenting → Internalizing			-.03*
Anticipated Discrimination → Depressive Symptoms → Involved Vigilant Parenting → Internalizing			-.00
Anticipated Discrimination → Externalizing Problem Behaviors	.02	.08	-.06 ⁺
Anticipated Discrimination → Depressive symptoms → Externalizing			-.00
Anticipated Discrimination → Involved Vigilant Parenting → Externalizing			-.05*
Anticipated Discrimination → Depressive Symptoms → Involved Vigilant Parenting → Externalizing			-.00
Anticipated Discrimination → Academic Persistence	.03	-.03	.06*
Anticipated Discrimination → Depressive symptoms → Academic Persistence			.00
Anticipated Discrimination → Involved Vigilant Parenting → Academic Persistence			.06*
Anticipated Discrimination → Depressive Symptoms → Involved Vigilant Parenting → Academic Persistence			.00
Anticipated Discrimination → Grades	.05	.02	.03 ⁺
Anticipated Discrimination → Depressive symptoms → Grades			.00
Anticipated Discrimination → Involved Vigilant Parenting → Grades			.03 ⁺
Anticipated Discrimination → Depressive Symptoms → Involved Vigilant Parenting → Grades			.03
Anticipated Discrimination → Involved Vigilant Parenting	.16*	.15**	.00
Depressive Symptoms → Internalizing Problem Behaviors	.41***	.36***	.05**
Depressive Symptoms → Involved Vigilant Parenting → Internalizing			.05**
Depressive Symptoms → Externalizing Problem Behaviors	.39***	.30***	.09***
Depressive Symptoms → Involved Vigilant Parenting → Externalizing			.09***
Depressive Symptoms → Academic Persistence	-.21**	-.12 ⁺	-.10***
Depressive Symptoms → Involved Vigilant Parenting → Academic Persistence			-.10***
Depressive Symptoms → Grades	-.15*	-.10	-.05*
Depressive Symptoms → Involved Vigilant Parenting → Grades			-.05*

Note. $N = 318$. * $p < .05$, ** $p < .01$, *** $p < .001$ ⁺ $p < .10$

FIGURES

Figure 1. Conceptual Model

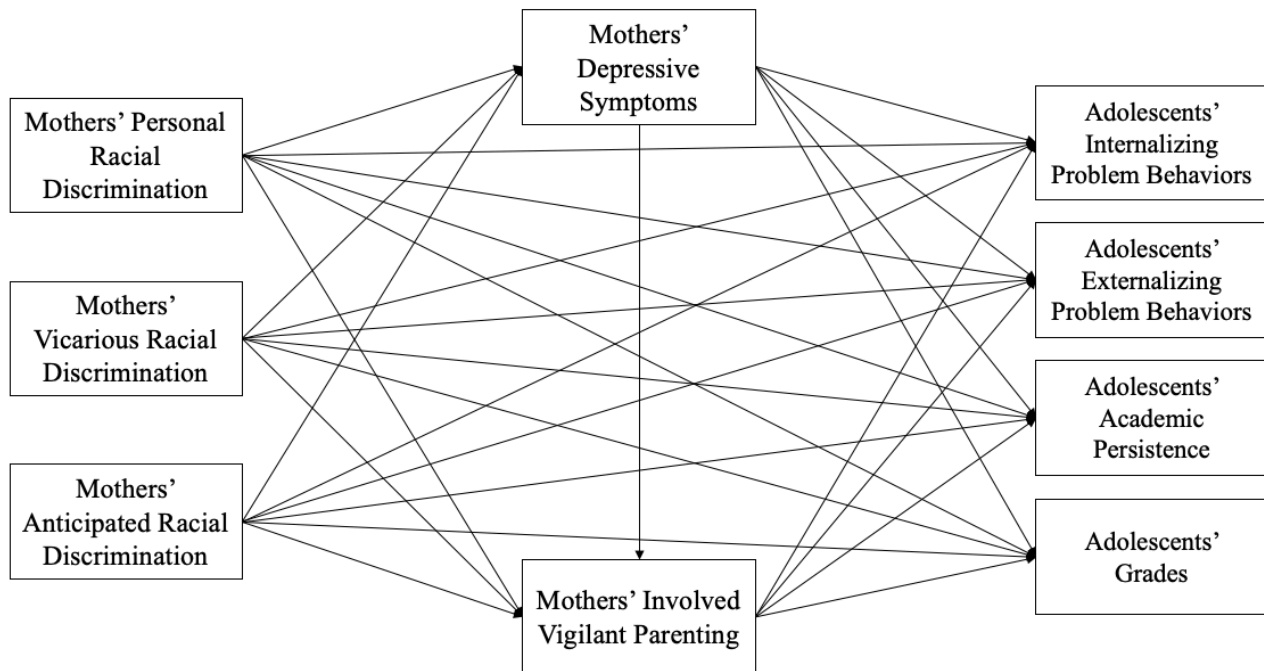


Figure 2. Alternative Model

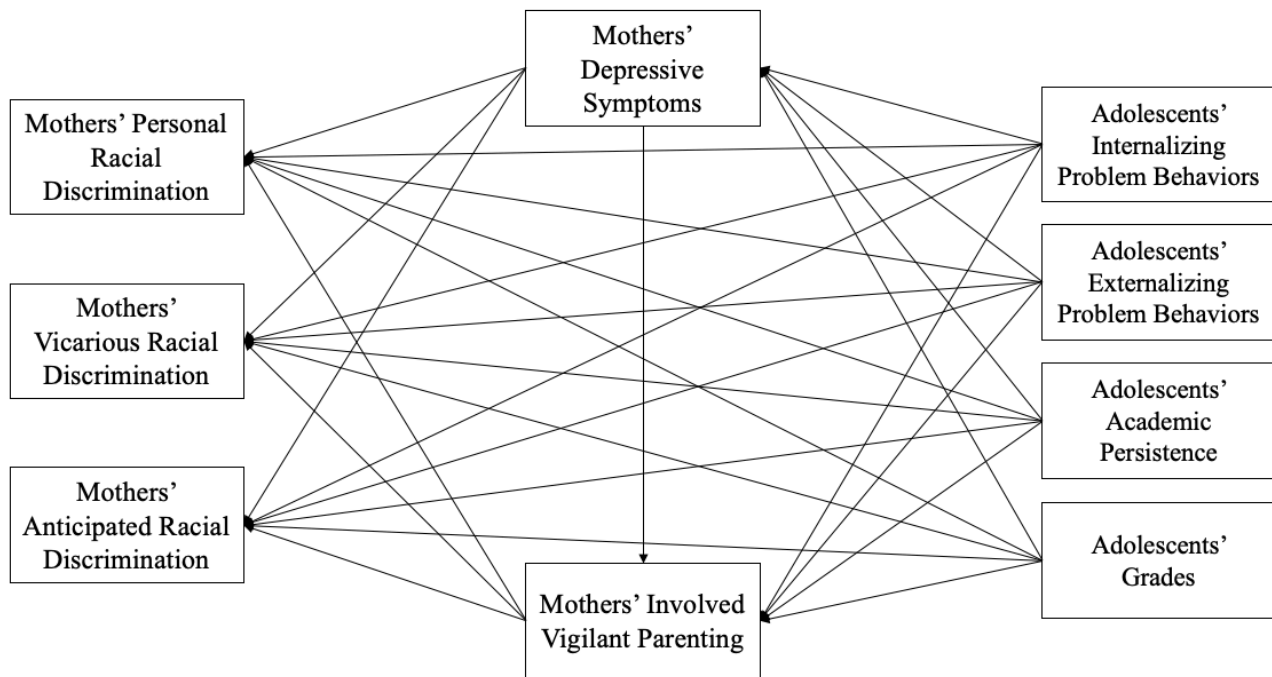
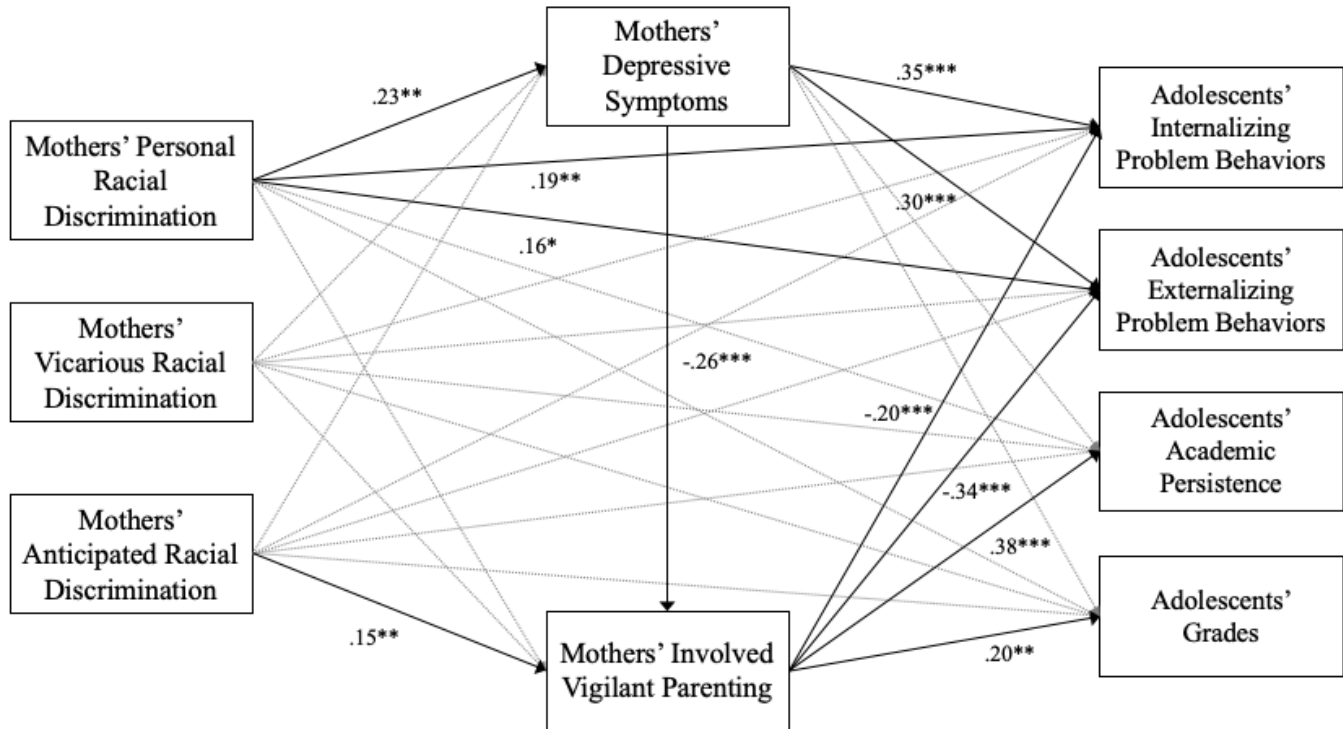


Figure 3. Total Model Direct Effects



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