The Intergenerational Transmission of Racial Attitudes: 
The Effects of Colorblind Parenting

by

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Abstract

Previous studies have revealed the prevalence of pro-White bias in young children, making it important to uncover the mechanisms driving this bias. Literature shows that parents play a crucial role in children’s racial and ethnic socialization, the mechanisms through which information, values, and perspectives about race and ethnicity are transmitted to children. White parents, when compared to non-White parents, speak significantly less about race with their children and engage in colorblind socialization. However, there is scant research on how parents who endorse the colorblind ideology contribute to the development of intergroup biases in their children. In this study, we used a sample of 22 White and non-White mothers and 28 children to propose that higher colorblind endorsement in mothers would be correlated with higher implicit and explicit pro-White bias in children. Additionally, we aimed to replicate previous findings regarding correlates of mothers’ and children’s racial attitudes, including the influence of interracial contact. We also recruited 48 Wesleyan students to validate previous findings on the relationship between colorblind endorsement, implicit bias, explicit bias, and interracial contact. Likely due to the inability to perform informative analyses with a larger sample size, we did not find a correlation between higher colorblind endorsement in mothers and higher racial bias in children. However, we replicated previous findings of a positive relationship between colorblind endorsement and explicit and implicit pro-White bias in adults. Further research includes testing a hypothesis focused on the importance of mother’s implicit bias in the relationship between mothers’ colorblind endorsement and children’s racial bias.
Introduction

By three months old, babies prefer faces from their own race over other race faces, demonstrating the ability to distinguish between different race faces (Kelly et al., 2005). Although this is not yet prejudice, research has shown that children as young as four years old display racial bias (Rutland, Cameron, Bennett, & Ferrell, 2005) and essentialize race, construing racial groups as fundamentally different (Baron & Banaji, 2006; Gelman & Wellman, 1991; Pauker, Xu, Williams, & Biddle, 2016). This has been observed in White toddlers, who are more likely to assign positive traits to their own racial group and negative attributes to other racial groups (Pahlke, Bigler & Suizzo, 2012).

Many factors influence the development of these racial attitudes, including peers, teachers, neighborhoods, and media (Davies, Tropp, Aron, Pettigrew, & Wright, 2011; Hagerman, 2014; Hagerman, 2017; Hinojosa & Moras, 2009; Ortiz & Behm-Morawitz, 2015; Rutland et al. 2005; Scharrer & Ramasubramanian, 2015; Vezzali, Giovannini, & Capozza, 2012). It is widely acknowledged that children’s contact with people of different races and ethnicities, termed intergroup contact, strongly influences their racial attitudes. Particularly, less intergroup contact is linked to higher racial bias, while more intergroup contact is linked to lower racial bias (Pettigrew & Tropp, 2006).

However, these factors are often still controlled by one of the earliest influences on a child’s development: their parents. While intergroup contact can serve as a more indirect example, parents often have a much more direct influence on the development of their child’s racial attitudes. Importantly, parents play a crucial role in socializing children (Hamm, 2001; Hughes, Rodriguez, Smith, Johnson, Stevenson, & Spicer, 2006; Vittrip & Holden, 2011), and their socialization practices often differ along racial categories. When compared to non-White parents, White parents talk significantly less about race with their children (Vittrip, 2018). This
socialization practice of being silent about race is referred to as being color mute or endorsing a colorblind mentality and has been linked to higher racial bias in both adults and children (Apfelbaum, Norton, & Sommers, 2012; Richeson & Nussbaum, 2004; Vorauer, Gagnon, & Sasaki, 2009). Moreover, parents’ racial bias may be passed to children when children pick up on gestures and nonverbal communication from parents indicating preference for some racial and ethnic groups over others (Castelli, Zogmaister, & Tomelleri, 2009; Skinner, Meltzoff, and Olson, 2017; Vittrup, 2018).

**Racial and Ethnic Socialization.** The social learning theory posits that children learn about how they should behave in social situations through observing the world around them (Bandura & Walters, 1977). In other words, they develop attitudes and behaviors by mimicking others. Socialization practices influence children’s self-regulation in regard to social norms, moral beliefs, perception of the self, and academic achievement (Fung, 1999; Gottfried, Fleming, & Gottfried, 1994; Phillips, 1987; Tam & Lee, 2010). While parents and caregivers are not the only agents in the socialization of children, they play a major role in the process. Unsurprisingly, researchers have also found that parents play an important part in children’s racial and ethnic socialization. Racial or ethnic socialization is defined as the mechanisms through which parents transmit information, values, and perspectives about race and ethnicity to their children (Hughes et al., 2006). Through racial socialization, children acquire the behaviors, perceptions, and attitudes of a racial or ethnic group and come to see themselves and others as members of a group. Therefore, children do not only develop perceptions and attitudes about their own racial or ethnic group, but they also develop perceptions and attitudes about other racial and ethnic groups.
Racial and ethnic socialization can occur intentionally or unintentionally. For example, literature surrounding Black parents’ racial socialization of their Black children shows that they explicitly communicate to their children how they must navigate in a society racism and discrimination (Harris-Britt, Valrie, Kurtz-Costes, & Rowley, 2007; Hughes, 2003; Hughes & Chen, 1997; Hughes & Johnson, 2001; Hughes et al., 2006; Stevenson & Arrington, 2009; Thornton, Chatters, Taylor, & Allen, 1990). Additionally, White parents may decide to intentionally send their children to diverse schools or attend extracurricular activities that allow them to develop relationships with a diverse set of children or intentionally expose their children to books about the lives and history of racially and ethnically diverse communities (Hagerman, 2014; Hamm, 2001). However, racial socialization can also occur unintentionally. White parents who avoid acknowledging racial differences and discussions about race, as well as parents who implicitly avoid interactions with people of other races and ethnicities also send important messages to children (Hagerman, 2014; Vittrup, 2018). Through these processes, caregivers teach children the social meaning of racial and ethnic group membership.

Research has categorized different types of racial socialization into four categories: cultural socialization, preparation for bias, promotion of mistrust, and egalitarian and silence about race (Hughes et al., 2006). Cultural socialization involves parents teaching children about their racial or ethnic heritage through various implicit and deliberate parenting practices. Promotion of cultural knowledge and pride can include exposure to cultural music and foods, discussion about culturally relevant historical figures, encouraging use of the family’s native language, and celebrating cultural holidays. This form of racial socialization can have a protective effect, as demonstrated in a 2007 study where parents’ promotion of race pride in a sample of African American youth mitigated the negative relationship
between perceived discrimination and self-esteem (Harris-Britt, Valerie, Kurtz-Costes & Rowley, 2007).

Preparation of bias is a type of racial socialization that promotes children’s understanding and awareness of discrimination and racial inequality to prepare them for the prejudice and discrimination they may face. Much of the literature has studied how African American parents prepare their children for racial bias in a society that devalues African American culture, providing tools to their children to cope with future and present prejudice and discrimination (Hughes et al., 2006; Hughes & Johnson, 2001). African-American mothers have reported an awareness that boys experience more overt forms of racial discrimination than girls, necessitating their concern for preparing them for bias (Dunbar et al., 2015). Consequently, Dunbar et al. (2015) found African-American boys receive more messages preparing them for bias than African-American girls, reflecting the fact that this socialization practice is used most frequently when parents anticipate their children having to confront bias in their lives (Hill, 2001). For African-American youth experiencing bias, a moderate amount of preparation of bias in African American families mitigated the negative relationship between perceived discrimination and self-esteem in middle school (Harris-Britt et al., 2007), demonstrating that this socialization practice can also serve as a protective factor.

Promotion of mistrust refers to parental practices that discourage children from interacting with people from different racial or ethnic group or that promote distrust of other racial or ethnic groups (Hughes et al., 2006). Intergroup mistrust is communicated in the form of cautions of another group or discussion of racial barriers to success. Promotion of mistrust is different from preparation of bias racial socialization in that messages of mistrust do not include advice for coping mechanisms. Hughes and Johnson (2001) found that parents’ perceptions that their child was treated unfairly by an adult and children’s perceptions that they had been
treated unfairly by peers was significantly correlated with parents’ cautions and warning about intergroup relations. Still, few studies have been able to measure promotion of mistrust in open-ended questions because few parents report such practices. In a sample of African American parents, Hughes and Chen (1997) found that cultural socialization was more frequent than promotion of racial distrust, but that 18% of African American parents reported promotion of mistrust, cautioning children about interactions with Whites and encouraging them to maintain social distance from White people. As with preparation of bias, this socialization practice seems to differ with varying expectations of bias as demonstrated by a 2013 longitudinal study determining that darker-skinned sons received more racial socialization involving messages of mistrust of other racial groups than their lighter-skinned counterparts (Landor et al., 2013). However, unlike with the previously discussed socialization practices, promotion of mistrust displays a lack of protective effects. Studies have indicated that messages of intergroup mistrust can predict negative outcomes, such as negative academic outcomes, greater pessimism, and child behavior problems (Caughy, Nettles, O'Campo, & Lohrfink, 2006; Huynh & Fuligni, 2008; Liu & Lau, 2013).

Egalitarianism and silence about race, otherwise known as colorblind socialization involves parenting practices that encourage children to value individual qualities over racial group membership or avoiding the mention of race in discussions with children (Hughes et al., 2006). The former component of egalitarianism, encouraging children to value individual qualities, has been reported in past studies as being endorsed by African American families who emphasize hard work and virtue (Hughes et al., 2006). However, African Americans who endorsed racial color blind beliefs, specifically the denial that that racism exists, were found to also have increased beliefs that African Americans were the blame for social and economic disparities, beliefs that a hierarchical system where there are inferior and superior
social groups is justified, and they were more likely to internalize racial stereotypes about Black people (Neville, Coleman, Falconer, & Holmes, 2005). While these findings demonstrate the presence of colorblind attitudes within African American families, avoidance of discussion of race and promotion of colorblindness is a concept more central to White parents. For instance, White parents in Hamm’s (2001) qualitative study more often than African American parents indicated that they taught their children that they should not notice race. White parents in the study made comments that they believed that their children should not try to forge cross-race friendships, since they should not pay attention to race, and placed the responsibility on the schools they attended to create diverse environments to facilitate positive cross-race peer relations. Still, egalitarianism and silence about race as a type of racial and ethnic socialization has been under researched compared to cultural socialization, preparation for bias, and promotion of mistrust (Hughes et al., 2006). Nonetheless, it should be noted that the research that has been conducted on the racial and ethnic socialization practices used in White families mainly support colorblind socialization, rather than any of the other three types of socialization that are more attributed to non-White families with the exception of cultural socialization in Jewish families (Davey, Fish, Askew, & Robila, 2003; Davey, Fish, & Robila, 2001; Semans & Fish, 2000).

**Colorblind Ideology.** Colorblind socialization derives from the color-blind racial ideology, which is comprised of two interrelated dimensions: color-evasion and power-evasion. *Color-evasion* strategy involves denying racial differences by emphasizing sameness between races, while *power-evasion* is considered “the ultra-modern form of racism” and is characterized by the denial of racism as a real issue by emphasizing equal opportunities to succeed between races (Neville, Awad, Brooks, Flores, & Bluemel, 2013). The underlying assumptions of the color-evasion strategy
is that it is effective for reducing prejudice and reaching racial equality, although research has indicated that this premise is untrue and that individuals who endorse this strategy are more likely to engage in a racially insensitive manner (Neville, Lilly, Duran, Lee, & Browne, 2000). Taking a multiculturalism stance to reducing racial prejudice and achieving racial equality is the alternative of the color-evasion strategy. This approach is described as recognizing, valuing, and celebrating racial differences, and has been proven to be more effective at reducing racial prejudice and increasing racial and cultural sensitivity (Richeson & Nussbaum, 2004; Ryan, Hunt, Weible, Peterson, & Casas, 2007).

Those who subscribe to the power-evasion dimension of the colorblind racial ideology attempt to ignore racism by denying blatant forms of racism, minimizing institutional racism, and/or distorting racial privilege (Neville, Awad, Brooks, Flores, & Bluemel, 2013; Neville et al., 2000; Norton & Sommers, 2011). The power-evasion strategy is also linked to beliefs in a just world: the idea that society is just and fair (Neville et al., 2013). The just world concept allows endorsers to argue that because society is just and provides opportunities to those who deserve it, racial privilege and institutional racism does not exist. Under this logic, any disadvantages that people of color experience are due to their own wrongdoings, not because of racial bias or racism. Color-consciousness is the alternative to the power-evasion strategy in that individuals who are color-conscious recognize that race and ethnicity play a part in negatively impacting some people’s opportunities in society, but that there are not fundamental race differences between people (Bonilla-Silva, 2006; Vittrup, 2018). In other words, it balances both looking at the person as an individual but also acknowledging the role that social group membership plays in everyday lives. Researchers have concluded that using the color-evasion approach to achieve racial equality is counterintuitive and ineffective when compared multicultural approaches that celebrate racial uniqueness. Furthermore, power-evasion stances
reinforce racial prejudice and inequality by denying the realities of racial disparities unlike color-conscious approaches (Hagerman, 2014; Neville et al., 2000).

**Implications of Racial Colorblindness.** Research on the implications of endorsing a colorblind mentality has linked the mentality to higher racial bias in children and adults (Apfelbaum et al., 2012; Richeson & Nussbaum, 2004). For instance, Richeson and Nussbaum (2004) found that White college students who were exposed to a colorblind message of reducing interethnic tension, as opposed to multicultural messages, displayed higher levels of the automatic and explicit racial prejudice. When White adults were tasked with playing a matching game that required describing other individuals, they were less likely to use race as a descriptor when they were paired with a Black partner than when they were paired with a White partner, hindering performance in the game. Avoiding race also resulted in Whites making less eye contact with their Black partners, appearing unfriendly to coders who were unaware of the study’s design (Norton, Sommers, Apfelbaum, Pura, Ariely, 2006). Similarly, when 8 to 11-year-olds played a basic categorization game that involved the acknowledgement of visual racial differences, the White 10 and 11-year-olds performed significantly worse than the 8 and 9-year-olds due to their avoidance of discussing race (Apfelbaum, Pauker, Ambady, Sommers, & Norton, 2008). Normal developmental trajectory would not predict such an outcome because 10 and 11-year-olds have better cognitive abilities related to categorization, demonstrating the ability of social development to counter predictions of victory based on cognitive ability (Apfelbaum et al., 2008).

Colorblind attitudes in White individuals are also associated with decreased perception of racism across different types of racially charged discriminatory situations. White adults who endorsed colorblindness were less likely to perceive workplace microaggressions and those that did not acknowledge racial issues were
less likely to perceive blatant examples of racism in a series of vignettes (Offerman et al., 2014). Likewise, one study found that when children were primed with a colorblind mentality, they were less likely to detect racial discrimination even in situations of clear displays of racial discrimination (Apfelbaum, Pauker, Sommers, & Ambady, 2010). These findings demonstrate how individuals endorsing colorblindness are not only more likely to dismiss racist acts committed by others but are also less likely to acknowledge racism when inherent in their own actions.

This link between colorblindness and the acknowledgement of, and participation in, racist acts is particularly evident in the widely publicized acts of racism in the context of social media. When shown images of a racial theme party and prompted to respond as if they were responding on a social media site, White college students high in colorblind endorsement were not bothered by the images and were more likely to condone and encourage the party by laughing at the photos (Tynes & Markoe, 2010). However, when White college students low in colorblind endorsement were shown the same photos, they were vocal in their opposition to the public display of racial discrimination and some reported that they would unfriend someone who engaged in such party (Tynes & Markoe, 2010). This demonstrates the importance of colorblind attitudes in informing White adults’ recognition of racial insensitivity. Enforcing racially colorblind beliefs can be detrimental to understanding and empathizing with the inequalities people of color experience, enforcing stereotypes and racist ideology.

Other implications of racial colorblind endorsement are evident in the approaches professors take to fostering inclusive learning environments for students. Many universities encourage faculty to implement inclusive teaching practices through professional development workshops. One study found that STEM faculty who endorsed colorblindness were more likely to adopt fewer inclusive teaching practice and those who endorsed multiculturalism were more likely adopt these
practices (Aragón, Dovidio, & Graham, 2017). Therefore, faculty’s own personal beliefs about approaches to diversity impacted diverse students’ experiences in the classroom.

These studies collectively examine how endorsing a colorblind ideology can have a strong impact on the perception of racial issues in diverse social settings. Both children and adults primed with a colorblind mentality are more likely to react less sensitively when exposed to racial discrimination. These studies not only demonstrate how the development of colorblind ideologies can affect bias towards minority group members, perceptions of discrimination, and intergroup interactions, but also how these attitudes can be communicated through authority figures, further perpetuating their effects.

*Colorblind Socialization by White Parents.* Colorblind socialization has been shown by researchers to be a common approach used in White families. A recent study found that 70% of White mothers took a colorblind approach or had vague discussions about race with their children even though they believed that these topics were important to discuss to eliminate discrimination (Vittrup, 2018). These mothers perceived a lack of racial bias in their children, despite results of the study suggesting otherwise. The colorblind approach involves ignoring race, and it is therefore unlikely that White parents address negative racial stereotypes that their children may encounter or that they explicitly discuss the positive attributes of different race individuals (Pahlke et al., 2012; Vittrup, 2018). As children begin to recognize racial and ethnic differences from a young age (Dunham, Chen, & Banaji, 2013; Katz & Kofkin, 1997; Kelly et al., 2005), the way that parents socialize their children to understand these differences is important for the development of their child’s racial attitudes.
Taking a more sociological approach, Hagerman’s (2014) explored the meaningful consequences for White children racially socialized in White families. Through interviews with White upper-middle class parents and their White children, she demonstrated how taking a colorblind approach, emphasizing that race should not be acknowledged and asserting that “everyone is the same”, versus a color-conscious approach, discussing the social implications of race, had significant consequences for White children. When adolescents were asked whether racism was a problem, those raised in a colorblind and racially and economically segregated environments expressed that it was not a problem. However, when the same question was asked to White children raised in a color conscious and racially and economically diverse environments, adolescents discussed how racism was a present issue that White people had difficulty acknowledging. They were also able to acknowledge and discuss acts of racism occurring in their daily lives towards people of color.

With a sample of younger children, Katz (2003) instructed parents of 12 to 19-month-olds to go through a picture book composed of photographs that varied in race and gender. She discovered that White parents, most prominently those of White boys, hardly mentioned race or racial differences. However, the parents selected same-race photographs more often to talk about in the book and frequently discussed gender, suggesting that discussing gender differences was easier to discuss for parents than discussing racial differences. Pahlke et al. (2012) reported similar results when the researchers found that White mothers of four and five-year-old children adopted a color mute approach when reading race related books with their children. Only 11% of mothers mentioned interracial interactions when reading one of books, and many believed that their children were not able to cognitively reason about race. However, even as White children become older, White parents unlike the majority of non-White parents avoid discussions about race and ethnicity because of the fear that exposing
their children to discussions about racial and ethnic differences will lead to them to become prejudiced (Kofkin, Katz, & Downey, 1995).

Furthermore, McRoy, Zurcher, Lauderdale, and Anderson (1984) conducted a study to examine the racial and ethnic socialization practices of White parents of adopted African-American children. Of the of 30 White parents, 18 had colorblind attitudes towards race, rarely talked about racial differences, and socialized their children in a mainly White environment. The remaining 12 parents either provided their children with a more racially and culturally rich environment by providing opportunities for their children to interact with other Black children or they attempted to integrate Black culture into their homes, lived in diverse neighborhoods, and commonly discussed race in their homes. While there is a lack of longitudinal studies examining these findings over time, this study sheds critical light on the pervasiveness of colorblind promotion in White families, even when family members include children of color.

However, Langrehr (2014) conducted a study to see whether the negative effects of White parents’ colorblind socialization of adopted non-White children could be mitigated. This was done by looking at the role of transracial adoptive parents’ cross-race friendships and whether this variable could affect the impact of parents’ colorblind attitudes and views towards cultural and racial socialization on their children. Langrehr (2014) found that parents with lower colorblind endorsement were more likely to reinforce feelings of ethnic pride in their children in addition to prepare them for racism, a socialization practice that has been shown to be especially positive for children of color in literature (Harris-Britt et al., 2007). In contrast, parents with higher colorblind endorsement were more likely to deny the existence of racism and not take part in the racial socialization practices described previously. However, this effect was stronger for parents with less cross-race friends. Therefore, for transracial adoptive parents who strongly endorse colorblindness, more cross-race
friendships may actually reduce the effects of colorblind attitudes on negatively impacting their racial socialization practices and acknowledgment of racism.

*Transmission of Racial Attitudes in White Families.* The relationship between White parents’ racial attitudes and their children’s racial attitudes is somewhat mixed in literature (Aboud & Doyle, 1996; Castelli et al., 2009; Degner & Dalege, 2013; Pahlke et al., 2012; Pirchio, Passiatore, Panno, Maricchiolo, & Carrus, 2018; Sinclair, Dunn, & Lowery, 2005; White & Gleitzman, 2006). For instance, Vittrip and Holden (2011) found that White children’s racial attitudes were not significantly correlated with those of their parents. However, children’s *perceptions* of their parents’ attitudes were positively correlated with their own racial attitudes. This is consistent with work done by Castelli, Carraro, Tomelleri, and Amari (2010) that found that 4 to 7-year-old White children’s perceptions of mothers’ expectations and racial attitudes was strongly correlated with children’s negative racial attitudes towards Black children. Interestingly, in Vittrip and Holden’s (2011) study, when parents were asked to show their 5 to 7-year-old children five educational videos and have race related discussions with them in the study, only 10% of parents actually did. It is important to note that the researchers made sure to give each parent a handout with race related topics that could be discussed with the child. Furthermore, Vittrup and Holden (2011) found that children who participated in the race-related discussions with their parents were more certain about their parents’ attitudes than children who did not have the race related discussions, demonstrating the potential value of explicitly discussing race in White families.

Some scholars have explained the lack of correlations between parents’ and children’s racial attitudes in some studies to be likely because of White parents’ use of colorblind socialization, avoiding the discussion of race. If parents do not explicitly discuss race, they cannot assume that their children will share the same
attitudes as they even if they have unbiased attitudes or egalitarian views towards other race individuals. This explains research that indicates that parents are unaware of the racially biased attitudes their children hold (Katz, 2003; Pahlke et al., 2012; Vittrup, 2018). Avoiding the explicit discussion of race may actually allow children to gain negative racial attitudes and stereotypes from other outlets such as media and peers (Ortiz & Behm-Morawitz, 2015; Scharrer & Ramasubramanian, 2015), despite parents’ self-reported positive intergroup attitudes.

Sill, there is evidence for an association between the racial attitudes held by parents and by children with some caveats. A meta-analysis found that when both measures of bias for parents and children were conceptually highly similar or identical, correlations between parents’ and children’s attitudes were higher than when the measures were dissimilar (Degner & Dalege, 2013). Furthermore, an Italian study explored how authoritative, authoritarian, and permissive parenting styles relate to the intergenerational transmission of ethnic prejudice by measuring parents’ blatant and subtle ethnic prejudice and children’s explicit and implicit prejudice. The results showed that parents’ subtle prejudice predicted children’s implicit prejudice regardless of their parenting style (Pirchio, Passiatore, Panno, Maricchiolo, & Carrus, 2018).

Additionally, a study with fourth and fifth grade children found a positive correlation between parents’ prejudice and children’s prejudice when children were highly identified the parent (Sinclair, Dunn, & Lowery, 2005). Moreover, this effect was stronger for the parents’ implicit bias than for their explicit bias. A study with 3-6-year-olds found that the mother’s implicit racial attitudes were predictors of their child’s attitudes, but that parents’ explicit racial attitudes were not related to children’s attitudes (Castelli et al., 2009). However, when Pahlke et al. (2012) used only explicit measures of racial bias (trait ratings and social distance ratings) for mothers and almost identical measures for children, mothers showed a slight pro-
African American racial bias while their children showed a slight pro-European bias showing incongruency between their racial attitudes. The challenges associated with correlating parents’ and children’s bias motivates the need for research on the subtle aspects of the transmission of beliefs about race.

Researchers who have made distinctions between parents’ and children’s implicit and explicit bias have provided evidence that parents’ intergroup attitudes are significantly related to their children’s attitudes. Evidence on the transmission of racial attitudes from parents to children has indicated that parents’ implicit bias is most correlated with the child’s attitudes (Castelli et al., 2009; Pirchio, Passiatore, Panno, Maricchiolo, & Carrus, 2018; Sinclair, Dunn, & Lowery, 2005). Because explicit attitudes are overt and controllable, negative explicit racial attitudes are often hidden due to social norms that consider them unacceptable. This may help to further explain the inconsistency in literature on the relationship between parents’ explicit racial attitudes and children’s attitudes. For instance, some literature reports that White parents’ and children’s explicit racial attitudes do not match (Aboud & Doyle, 1996; Pahlke et al., 2012). In White parents, these explicit racial attitudes may be especially uncorrelated with their children’s racial attitudes because of their adoption of colorblindness, which enforces the idea that race should not be discussed, positively or negatively, to emphasize sameness and support racial equality.

However, implicit behaviors are non-controllable and can be displayed in non-verbal ways (e.g. sitting far away from someone, avoiding eye contact, body posture when around certain individuals). Dovidio, Kawakami, & Gaertner (2002) have linked implicit attitudes to nonverbal behaviors. More recently, Skinner, Meltzoff, and Olson (2017) published data showing that preschoolers exposed to nonverbal bias through a brief 30-second video in favor of one group over another were more likely to prefer the favored group and exhibit prosocial behaviors towards them over the non-favored group. Strikingly, this behavior and preference was
replicated when the children were introduced to the favored and non-favored groups’ friends (Skinner et al., 2017). Hence, children are able to pick up on these nonverbal behaviors and develop negative attitudes towards racial out-groups in accordance with their parents’ intergroup biases (Castelli, De Dea, & Nesdale, 2008). Like other researchers have alluded to, children may need to have explicit conversations with their parents about race in order combat the potential negative implicit messages they pick up on (Vittrup & Holden, 2011).

The Development of Intergroup Bias in Children. Intergroup bias refers to the evaluation of one’s in-group more favorably than one’s out-group and can take the form of discrimination, prejudice, and stereotyping (Mackie & Smith, 1998). Furthermore, individuals can exhibit in-group favoritism, favoring the ingroup or out-group derogation, derogating the out-group (Hewstone, Rubin, & Willis, 2001). Baron and Banaji (2006) found that by 6 years old, children had formed implicit attitudes toward social groups.

There is further evidence that children display implicit racial bias from an early age (Dunham, Chen, & Banaji, 2013; Rutland, Cameron, Milne, & McGeorge, 2005; Sinclair, Dunn, & Lowery, 2005; Turner, Hewstone, & Voci, 2007). Using the Implicit Association Test, Baron and Banaji (2006) measured implicit racial bias in kindergarteners, fifth graders, and adults and found clear pro-White and anti-Black bias in all age groups. Xiao et al. (2014) also measured implicit bias in 4 to 6-year-old Chinese children and found that when the children were shown happy or angry racially ambiguous faces, they categorized the happy faces as Chinese and the angry faces as African. However, this implicit bias was significantly reduced after children participated in training that helped them individuate African faces (Xiao et al., 2014). When 3 to 14-year-olds and adults were given a similar task, they categorized the happy faces as the White in-group and angry faces as the Black out-group (Dunham
et al., 2013). Importantly, the strength of the effect did not vary depending on the age of the participants, indicating that the youngest 3 and 4 four-year-olds performed similarly to adults on the implicit bias measure (Dunham et al., 2013). In contrast, the researchers found that the 4 to 10-year-old Black children did not show this effect, meaning that they did not label the angry or happy faces as belonging to either the White out-group or the Black in-group more frequently, indicating that there may be differences in the implicit racial bias for majority and minority group members.

With this indication in mind, Newsheiser, Dunham, Merrill, Hoosain, and Olson (2014) studied these differences more in depth by looking at effects of being a part of a low-status racial group on implicit bias among 6 to 11-year old children in South Africa. Those considered a part of a lower-status racial group, Black and Multiracial people, displayed an implicit outgroup bias in favor of Whites, demonstrating possible attentiveness to racial status and that minority group children are not simply attending to ingroup favoritism (Newsheiser et al., 2014). These studies highlight the important role racial status plays in the case of racial bias in intergroup contexts.

The effect of intergroup contact and the development of intergroup bias changes with age, and multiple studies demonstrate racial bias decreasing with age. Explicit racial bias tends to emerge in children by 3 or 4 years old and begins to decline by 7 or 8 years old (Aboud, 2008). Until 10 years old children display a strong explicit preference for members of their own social group (Baron & Banaji, 2006). In a study on Anglo-British and African-Caribbean 3 to 5-year-olds’ intergroup bias, Anglo-British children who experienced low levels of interracial contact showed discrimination in favor of the White group when they had to attribute positive and negative traits to each group (Rutland et al., 2005). An Australian study also showed evidence for pro-White bias in White 3 and 5-year-olds who more frequently selected Black children for negative evaluations and White children for
positive evaluations in a story, though the effect was stronger in the 5-year-old children (Duckitt, Wall, & Pokroy, 1999). One study focused on the role of anti-racist norms in children and adolescents’ race-based resource allocation. Monteiro, de França, and Rodrigues (2009) found that 6 and 7-year old children discriminated against the Black child, in the form of allocating fewer Euro coins, under conditions when a White interviewer was present (high anti-racist saliency) and when a White interviewer was not present (low anti-racist saliency). However, 9 and 10-year-olds discriminated against the Black child only in the low anti-racist saliency condition. This seems to indicate an overall decrease in explicit racial bias with age, across various intergroup contexts.

Although explicit racial bias typically declines with age, implicit racial attitudes generally remain stable throughout adulthood, showcasing the importance of intervening on implicit racial biases in addition to explicit racial biases at a young age (Baron & Banaji, 2006; Dunham, Baron, Banaji, 2006). Even seemingly meaningless social groupings of 5 and 6-year-olds into kite and balloon groups showed children’s preference for ingroup members (Schug, Shusterman, Barth, & Patalano, 2013). Interestingly, children interpreted the same information differently for their ingroup versus their outgroup; positive behaviors of outgroup members had little effect on their liking ratings but positive behaviors of ingroup members increased liking ratings. Using similar minimal group assignments, children who heard stories of ingroup and outgroup members performing an equal amount of positive and negative actions, better remembered positive actions of ingroup members and preferred to play with ingroup members (Dunham, Baron, & Carey, 2011). These studies provide evidence for children’s ability to discriminate between ingroup and outgroups, displaying implicit and explicit biases.
Intergroup Contact. While parental influence is important in the development of children’s intergroup attitudes, it is possible that children’s own contact and interactions with out-group members plays just as large as a role in the development of these attitudes. Referencing Allport's contact theory, studies have documented evidence that the greater amount of contact children have with different racial groups, the lower racial bias they display (Pettigrew & Tropp, 2006). Miklikowska (2017) found that even in the presence of prejudice parents and peers, German adolescents with cross-race friendships were less likely to hold prejudice towards immigrants. Furthermore, a study conducted with 4th, 7th, and 10th grade students found that those with higher levels of cross-race friendships were more likely to recognize how race affects social exclusion and view this practice negatively (Crystal, Killen, & Ruck, 2008). White 7 and 10-year-old children in racially homogenous schools, when compared to White and Black children in racially heterogeneous schools, were more likely to judge Black children as having negative intent in ambiguous situations involving a White peer (McGlothin & Killen, 2006). Consequently, they concluded that the Black and White child would be less likely to be friends (McGlothin & Killen, 2006). White et al. (2009) found that Anglo-Australian adolescents with more contact with Asian-Australians had significantly lower levels of subtle and blatant prejudice than those without Asian friends. Likewise, White elementary school children’s cross group friendships predicted positive explicit attitudes towards South Asian children (Turner, Hewstone, & Voci, 2007). These studies demonstrate the positive influence of intergroup contact on children and adolescent’s intergroup attitudes.

Some studies have even found forms of indirect contact, in the absence of direct contact, to positively influence children’s intergroup attitudes. For instance, imagined contact is a strategy that has been used to improve intergroup attitudes and reduce prejudice (Miles & Crisp, 2014). The idea behind imagined contact is that by
creating imagined positive interactions with outgroup members, individuals will exhibit less stereotypes, develop positive explicit and implicit attitudes and perceptions towards outgroup members, and it will increase the likelihood that individuals engage in future direct contact (Crisp & Turner, 2009). In a 2012 study, Vezzali, Capozza, Giovannini, and Stathi tested the effectiveness of an imagined contact intervention on Italian elementary school children’s attitudes about refugee children. The results showed that the three-week intervention was successful at increasing positive behavioral intentions, such as inviting the outgroup member to ice cream, and implicit attitudes when compared to results of the control group. Stathi et al. (2014) found similar results when the researchers’ three-week imagined contact prejudice reduction intervention for White children resulted in more positive attitudes, greater perceived similarity, and willingness to participate in contact with the Asian outgroup.

Another form of contact used by researchers to reduce prejudice in intergroup contexts is extending contact, which refers to learning that an ingroup member is friends with an outgroup member (Cameron & Rutland, 2006; Dovidio, Eller, & Hewstone, 2011; Eller, Abrams, & Gomez, 2012). Cameron, Rutland, Hossain, and Petley (2011) found that extended contact was only effective at increasing positive intended friendship behavior when White-English 6 to 11-year-old children had low quality cross-ethnic friendships. However, longitudinal data on the effects of direct and extended contact on German 7 to 11-year-old children’s attitudes towards Turkish outgroup children demonstrated that direct cross-ethnic friendships, but not extended cross-ethnic friendships, predicted positive outgroup attitudes after 7 months (Feddes, Noack, & Rutland, 2009). Thus, extended contact may not be as effective at reducing prejudice as direct contact with out-group members.

Furthermore, like children, interracial contact in adults has also been indicative of racial attitudes and bias. White participants with more close outgroup
friendships predicts implicit and explicit biases against the outgroup (Aberson, Shoemaker, & Tomolillo, 2004). More specifically, Prestwich, Kenworthy, Wilson, and Kwan-Tat (2008) found that White participants who reported greater contact quality with an Asian outgroup member also reported more positive explicit attitudes towards the group, but that greater contact quantity was associated with more positive implicit attitudes. It is important to note that these effects were both mediated by reduced intergroup anxiety. White freshmen college students randomly assigned to an African American roommate experienced decreased negative automatic activated racial attitudes and intergroup anxiety towards African-Americans after one quarter, despite reporting less satisfaction and involvement with their roommate than those paired with a same-race roommate (Shook & Fazio, 2008). However, results from a meta-analysis on the relationship between intergroup contact and prejudice found that the relationship was weaker for members of minority status groups (Tropp & Pettigrew, 2005).

This plethora of evidence suggests that cross-race interactions and friendships among majority group members help to mitigate the development of negative intergroup attitudes in children, adolescents, and adults. Conversely, lack of intergroup contact is likely to support negative racial attitudes.
A Previous Study: Relations Between Colorblind Socialization and Children’s Racial Bias

Researchers who study children’s racial attitudes aim to understand the origins, development, and implications of children’s conceptions of race and ethnicity and their subsequent racial attitudes. Research shows that young children and adolescents hold biases towards different races even though many adults perceive children to be incapable of being prejudice or racially biased (Katz, 2003; Pahlke et al., 2012; Vittrup, 2018). For this reason, researchers have attempted to develop and implement interventions, curriculums, and programs to reduce prejudice and stereotyping in children (Aboud & Fenwick, 1999; Aboud & Levy, 2000; Berger, Benatov, Abu-Raiya, & Tadmor, 2016; Bernstein, Zimmerman, Werner-Wilson, & Vosburg, 2000; Brown, Tam, & Aboud, 2018; Johnson & Aboud, 2017).

In order to develop effective interventions, more research needs to be conducted to understand when and how parents and caregivers influence racial attitudes in children, as these important socializing agents may be a crucial target for interventions aiming to decrease racial bias in children and adolescents and to help them reason about racial differences. A socialization practice regarding race that is understudied but used largely by even well-meaning parents to promote egalitarian attitudes in children is colorblindness. Work needs to be done to unpack the implications of teaching children and adolescents that race does not matter, that they should not see color, and that they should avoid discussions involving race all together.

Attempting to unpack these implications, Pahlke et al. (2012) examined the relationship between White mothers’ colorblind socialization and their preschool children’s racial bias. The researchers tested six hypotheses: mothers would avoid discussing race with their children during the book reading portion of the study, children would endorse racially biased attitudes, mothers would inaccurately estimate
children’s views, mothers would assume that their children held their racial attitudes, children would assume that their mothers held racial attitudes like their own, and mothers’ cross-race relationships and children’s intergroup contact would predict children’s racial attitudes. The researchers recruited 84 mother-child dyads and told the mothers that they were interested in how mothers use children’ literature to shape children’s social knowledge and attitudes.

First, the mothers were instructed to read two books as they normally would read and discuss at home. The two books the mothers read were David’s Drawings by Cathryn Farewell and What if Zebras Lost Their Stripes by John Reitano. David’s Drawings tells the story of a boy who creates a picture with the help of his classmates. Although the book does not explicitly mention race, the book is made up of racially and ethnically diverse characters. What if Zebras Lost Their Stripes uses the analogy of all white and all back zebras to raise issues of racial prejudice and race relations. Afterwards, the researchers explained to the mothers that they were actually interested in children’s racial attitudes and proceeded to complete the racial attitude measures with the child while the mother completed a series of questionnaires in another room.

The mothers completed six racial attitude measures: trait ratings, social distance ratings, current socialization behaviors, future socialization goals, interracial contact, and estimates of their children’s trait and social distance ratings. The mothers were asked to rate how many Black/White people possessed five different negative and five different positive traits on scale from “almost all” to “none”. Next, they rated how happy they would be to have a Black doctor, friend, teacher for their child, friend, neighbor, doctor, and babysitter on a scale from “strongly disagree” to “strongly agree.”

To evaluate their current socialization behaviors, the mothers were asked to rate, on a scale from “never” to “very often”, how often they tell their child a series
of statements related to egalitarianism (e.g. “people are equal, regardless of their race or ethnicity”), history of other groups (e.g. “about important people in the history of other racial or ethnic groups”), discrimination against other groups (e.g. “people from other racial and ethnic groups are sometimes still discriminated against because of their race or ethnicity”), and preparation for bias (e.g. “about the possibility that some people might treat him/her badly or unfairly because of our race or ethnicity”).

Next, the mothers indicated the amount of interracial contact themselves and their children had by providing an estimate of the percentage of White, Black, Latino/Hispanic, Asian, and Other races that make up the child’s preschool, people in the neighborhood they spend most time in, the mother’s friends, and the child’s friends. Finally, the mothers were asked to estimate their child’s responses on the trait ratings and social comfort scale.

The children completed four measures of racial attitudes: a race labelling task, trait ratings, social distance ratings, and estimates of their mother’s trait and social distance ratings. First, children completed a picture-sorting task to determine labels that children gave to African Americans and European Americans. Then, they gave trait ratings, which followed the same procedure as the adult version, but was accompanied by a visual representation of the traits. Next, they rated how happy they would be to have a Black teacher, friend, teacher for their child, friend, neighbor, doctor, and babysitter on a scale from “strongly disagree” to “strongly agree”. The social distance scale was accompanied by graphic representations of each choice, giving children a choice between varying degrees of a thumbs down to a thumbs up. Finally, they played a guessing game to determine estimations of their mother’s trait ratings and social distance ratings.

The main purpose of this study was to examine White mothers’ racial socialization of their preschoolers to determine the relationship between mother’s racial socialization and children’s racial attitudes. As expected, the researchers found
that the mothers in the study relied on colorblind socialization and rarely spoke to their children about race during the book reading portion of the study and also indicated this through the current socialization behaviors questionnaire. They also indicated the belief that it would be important to provide messages to their children about egalitarianism and discrimination against other groups in the future. Additionally, the researchers saw a decrease in children’s trait based racial biases when their mothers had more non-White friends. However, there was no relationship found between children’s racial bias and their own friends, or diversity in their preschool or neighborhood. None of the interracial measures for mothers or children predicted children’s social distance ratings.

While mothers showed a slight pro-African American and an anti-European American bias, the children showed a pro-European American and an anti-African American bias. Additionally, the mothers were generally happy with the idea of interacting with African Americans, while the children were uncertain about the interaction. Both the mothers and children were unsuccessful at predicting each other’s trait ratings and social distance ratings. Mothers believed that children had unbiased racial attitudes and that they were happier about interacting with African Americans than they actually were. Children believed that mothers had unbiased racial attitudes and that their mothers shared their uncertainty about interacting with African Americans.

The results most relevant to the current study concern the lack of relationship the researchers found between the mothers’ colorblind socialization and children’s racial attitudes. Specifically, the mother’s observed race related behavior through the reading task, wherein mothers read two books related to race and race relations to their children, was not predictive of children’s racial attitudes, which was measured by the trait ratings and social distance ratings. Additionally, none of the four subscales of the current socialization behaviors measure significantly predicted
children’s trait ratings or social distance ratings. The mother’s future socialization goals also did not predict children’s trait ratings or social distance ratings.

Although Pahlke et al. (2012) had a conceptually similar research question regarding the effects of colorblind parenting on children’s racial attitudes, the researchers took a different approach to studying the construct than the current study. As one of the first studies in the literature to research the relationship between colorblind parenting and children’s racial attitudes, this approach was completely reasonable. However, there may be alternative methods to thoroughly and successfully study the topic of colorblind parenting.
The Current Study

The current study addresses two main methodological concerns with the Pahlke et al. (2012) study. It is the hope that addressing these concerns will help determine whether there is a plausible explanation for the researchers’ lack of findings for the relationship between colorblind socialization and children’s racial bias. The first concern that will be addressed is the measure that was used for mothers’ colorblind socialization practices. The second concern to be addressed is the use of only an explicit measure of racial bias in mothers and children without the inclusion of an implicit bias measure as well.

Although there are advantages to using a more naturalistic, behavioral analysis such as book reading to measure mothers’ colorblind endorsement instead of a questionnaire, rare behaviors may be less likely to be observed in such a setting. The book reading tasks in which mothers read two race related books may have failed to generate abundant data because of the lack of substantive elements to talk about without more prompting. Additionally, the researchers’ understanding of why mothers did not discuss race during the book reading task could have actually been due to the mothers’ attempted attentiveness of the child’s knowledge state, as the researchers found that mothers assumed their children would be unable to label photographs of African American and European American individuals, let alone hold biased racial attitudes. Other studies have also documented this misunderstanding held by some parents (Katz, 2003; Pahlke et al., 2012; Vittrup, 2018). To detect a relationship between parents’ colorblind attitudes and children’s racial attitudes, there may be a need for a more straightforward measure of colorblindness in parents that can address parents’ attitudes about acknowledging race. This will likely translate to their parenting and socialization practices without explicit asking about the socialization behaviors they utilize with their child. With a more straightforward
measure, not muddled by the influence of a book reading task, we may be able to assess colorblindness in parents that is likely to reflect their socialization practices.

Because it is known that with age, individuals are less likely to report explicit bias, it is important to use this knowledge when designing research studies aimed at uncovering individual’s racial attitudes. Only measuring explicit racial attitudes may have produced inaccurate data as mothers may have reported more positive attitudes towards African Americans and may have assigned more positive traits to African Americans in an effort to appear less biased. Additionally, instructing mothers to read the race related books first may have influenced their responses to the preceding questionnaires that produced the racial attitude measurements. As the authors mentioned in their discussion, it is possible that reading the race-related books before the trait ratings influenced the saliency of the negative attributes given to Whites, as these books may have highlighted racial oppression inflicted by Whites in the United States. This may be an explanation as for why the mothers gave more negative traits to Whites and more positive traits to African Americans. Because of this, an implicit bias measurement should also be taken.

Thus, in the current study, we will collect a measure of implicit bias in addition to explicit bias to support a more accurate assessment of bias that may have been undetectable in the mother’s explicit report. Additionally, we incorporated different measures of explicit bias, including a feeling thermometer, in an attempt to assess parents’ explicit racial attitudes differently than having them assign positive and negative traits to Whites and African Americans. Not only do we measure explicit racial attitudes towards White and Black individuals, but we also measure explicit racial attitudes towards White and non-White individuals. By incorporating an implicit bias measure and modifying the way in which measures of explicit bias were assessed, we hoped to better target parents’ and children’s biases to potentially discover correlations in their racial attitudes.
Relatedly, because the researchers failed to measure implicit bias in both the children and mothers, this may have influenced the lack of relationship they found between the mothers’ reported socialization practices and their child’s racial attitudes. Past research has indicated a relationship between parents’ and children’s implicit bias, rather than explicit bias (Castelli et al., 2009; Pirchio, Passiatore, Panno, Maricchiolo, & Carrus, 2018; Sinclair, Dunn, & Lowery, 2005). However, Pahlke et al. (2012) only measured explicit bias. Colorblind socialization involves not explicitly discussing race positively or negatively. In the absence of discussion of race within the family, children may be more susceptible to pick up on parents’ implicit biases. There is a possibility that parents’ high colorblind endorsement coupled with high implicit bias impacts children’s racial biases more strongly. Parents’ implicit biases towards out-group members may play an important role in the effects of their colorblind attitudes on their children intergroup attitudes. For this reason and to more accurately measure racial attitudes, it may be important to take measures of implicit bias to begin to understand the effects of colorblind parenting on children’s racial attitudes.

Various studies thus far have been conducted in the following areas related to the current study’s aims: parental racial and ethnic socialization, the transmission of implicit and explicit racial attitudes within the family, endorsement of the colorblind ideology and its consequences for children’s and adult’s racial attitudes, and the promotion of colorblindness in White families. Hughes et al. (2006) conducted extensive research on the four types of racial and ethnic socialization and what practices and messages they entail: cultural socialization, preparation for bias, promotion of mistrust, and egalitarian and silence about race. Moreover, studies have focused on finding an association between parents’ explicit bias and implicit bias and children’s racial attitudes, with more evidence pointing towards the transmission of
parents’ implicit racial attitudes (Castelli et al., 2009; Castelli et al., 2008; Pirchio, Passiatore, Panno, Maricchiolo, & Carrus, 2018; Sinclair, Dunn, & Lowery, 2005).

Furthermore, studies have explored the relationship between racial colorblindness and racial bias. Studies that both experimentally prime individuals with a colorblind mentality and those that measure levels of colorblind endorsement have found that individuals who hold the mentality are less likely to detect racial discrimination in scenarios that depict obvious racial discrimination (Apfelbaum, Pauker, Sommers, & Ambady, 2010; Offerman, Basford, Graebner, Jaffer, De Graaf, & Kaminsky, 2014). Relatedly, endorsement of a colorblind mentality has been linked to higher racial bias (Holoien & Shelton, 2012; Richeson & Nussbaum, 2004; Tynes & Markoe, 2010; Vorauer et al., 2009). However, a study has not yet been conducted to explore the current study’s research focus, which is to examine whether higher colorblind endorsement in mothers is correlated with higher implicit and explicit bias in children. Additionally, we took this prediction further by originally proposing that high implicit bias coupled with high colorblind endorsement in mothers would predict higher levels of racial bias in children.

*The Aims and Hypotheses of the Current Study.* The first aim of the study was to validate the relationship between adults’ racial bias (implicit bias and explicit bias) and their endorsement of colorblindness. It was expected that stronger endorsement of colorblindness would predict higher racial bias. Previous studies have found a positive correlation between colorblind endorsement and explicit and implicit racial bias in adults (Holoien & Shelton, 2012; Richeson & Nussbaum, 2004; Vorauer et al., 2009). We also predicted that lower interracial contact would be correlated with higher implicit and explicit racial bias.

The second aim of the study was to determine predictors of children’s implicit and explicit racial bias. We explored whether mothers’ implicit bias, explicit bias,
colorblind endorsement, interracial contact and children’s own interracial contact could be used to predict racial bias in children.

In line with past literature, we predicted that mothers’ and children’s implicit bias would be correlated. Additionally, we hypothesized that higher interracial contact experienced by mothers and children would be correlated with lower racial bias in children. Pahlke et al. (2012) also found that the number of mothers’ interracial friendships was associated with a decrease in children’s racial biases, which we hoped to replicate. Although Pahlke et al. (2012) did not find this in their study, we sought to also replicate results from other research demonstrating that children’s cross-race friendships and interracial contact predicted a decrease in their racial bias (McGlothin & Killen, 2006; Miklikowska, 2017; Turner, Hewstone, & Voci, 2007; White et al., 2009).

The main aim of the study was to understand the effects of parents’ colorblind endorsement on children’s racial bias. Therefore, we hypothesized that higher colorblind endorsement in mothers would be correlated with higher racial bias in children. More precisely, we predicted that mothers’ implicit bias would be key in mothers’ colorblindness influencing children’s racial bias. Mothers’ implicit bias would moderate the relationship between mothers’ colorblind endorsement and children’s racial bias. This prediction indicates that mothers with high colorblind endorsement and high implicit bias would predict higher implicit and explicit racial bias in children. However, to conduct analyses to test this hypothesis, a larger data set would be necessary. These ideas will be revisited in the discussion.
Method

Participants

Because the purpose of the study was twofold, the sample consisted of two different groups of participants for the two corresponding parts of the study: college students and mother-child dyads.

College students. For the first part of the study, 48 students (33% male) were recruited from an Introduction to Psychology course at Wesleyan University. The mean age of the participants was 19.14 (SD = 0.78). The participants were compensated with credit that counted towards the course and were tested in the laboratory on campus. Of this sample, 73% reported being born in the United States and 75% spoke English as their primary language. The participants’ reported ethnic background was 50% White and 50% non-White. The experimenter for the participants varied as some were tested by an African American experimenter, while others were tested by White or White-passing experimenters.

Mother-child dyads. A sample of 28 four to seven-year-old children (40% female) and their mothers were recruited from a laboratory-maintained database at Wesleyan University and were tested in the university laboratory. Children were compensated with a small toy and the mothers were given a travel reimbursement. Six of the mothers had more than one child participate in the study, for a total of 22 families who participated. For families with multiple children within the 4 to 7-year-old age range, we decided to include them in the study because we planned to see whether their racial attitudes differed from their siblings and whether there were any age effects within the same family. However, there were not enough families with siblings in the sample to conduct these analyses at the present time. The mother-child dyads were all tested by an African American experimenter.
The mean age for the children was 6.17 (SD = 1.32) and the mean age for mother was 38.63 (SD = 4.36) with ages ranging from 29 to 45 years-old. According to mothers’ reports, the racial/ethnic background of the children was 54% White and 46% non-White. Mothers reported their own racial/ethnic background as 55% White and 45% non-White. Mothers self-reported family income was as follows: one mother reported less than $30,000; three mothers reported between $30,000 and $60,000; five mothers reported between $60,000 and $90,000; five mothers reported between $90,000 and $120,000; three mothers reported between $120,000 and $150,000; three mothers reported $150,000 and above; and two mothers reported that they did not know or preferred not to answer the question. The median family income was between $90,000 and $120,000.

Materials

Adult Responses

Colorblind Endorsement. A questionnaire (see Appendix A) was used to assess adult participants’ endorsement of colorblindness and was adapted from Gaither, Toosi, Babbitt, and Sommers (2018). The questionnaire contained four statements: “It is more important to be colorblind than to celebrate differences in race and ethnicity”; “Talking about racial issues causes unnecessary tension”; “If everyone paid less attention to race and color, we would all get along much better”; and “When I interact with people, I try to not even notice the color of their skin.” Participants were asked to indicate their level of agreement to the statements using a seven-point scale (1 = not at all, 7 = very much). A Cronbach’s alpha of .74 was reported by Gaither, Toosi, Babbitt, and Sommers (2018) suggesting reliability of the questionnaire. We took the mean of each participants’ responses to the four questions to create a composite score for each participant. Scores of 1 indicated no colorblind
endorsement, scores greater than 1 and less than 4 indicated low colorblind endorsement, and scores greater than 4 indicated high colorblind endorsement.

**Implicit Racial Attitudes.** The race Implicit Association Test (IAT), a computer-based measure, was used to evaluate participants’ implicit racial attitudes (Greenwald, McGhee, & Schwartz, 1998). See Appendix B for an example of the task. In the first trial block, participants categorized positive and negative words. In the second trial block, they categorized photos of White and Black adults. In the third trial block, participants were instructed to press one button when positive words or White faces appear on the screen and another button if negative words or Black faces appear on the screen. In the fourth trial block, the buttons will be reversed. In the fifth trial block, participants were instructed to press one button when negative words or White faces appear on the screen and another button if positive words or Black faces appear on the screen. The sequence in presentation was counterbraced across participants to avoid order effects. If participants pressed the incorrect button during any trial block, they were allowed to correct themselves. However, when errors were made, participants incurred an error penalty of added time taken into account when computing their IAT score, the score indicating their implicit bias towards White versus Black individuals.

The IAT was designed to detect the strength in which concepts are paired in an individual’s memory. When participants more strongly automatically associate pairings, their responses are expected to be faster and less error prone when shown those pairing. For the purposes of this study, we used the race IAT to assess implicit associations between Black faces and negative words, and White faces and positive words (and vice versa). Thus, if negative words and Black faces are strongly associated in the participant’s memory, it is expected that they will respond faster and make less errors when this pairing is shown. We excluded 1 parent from analyses.
because they had an excessively high error rate of 48%. None of the college student participants were excluded from IAT analyses.

For each participant, an IAT score – defined by Greenwald, Nosek, and Banaji (2003) as “D”, was computed by calculating the mean difference between the latencies for the two critical trial blocks and dividing it by the overall standard deviation. This score indicates the direction and magnitude of the association (bad/good with White/Black). Positive scores reflect pro-White bias and negative scores reflect pro-Black bias with the range of possible scores being between -2 and 2. Scores of 0 reflected no bias in either direction. The break points for ‘slight’, ‘moderate’ and ‘strong’ pro-White bias were .15, .35, and .65 respectively (Greenwald, Nosek, & Banaji, 2003).

Explicit Racial Attitudes. Two measures of explicit racial attitudes were used in this study (see Appendix C). The first measure asked participants to pick one of the five statements they most agreed with pertaining to their preference for Black versus White people (Beattie, Cohen, & McGuire, 2013). The choices ranged from “I strongly prefer Black to White people” to “I strongly prefer White people to Black people.” A feeling thermometer was used as the second measure to evaluate participants’ explicit racial attitudes (Beattie et al., 2013; Campbell & Herman, 2010; Amodio and Devine, 2006; Upton & Arlington, 2012). Participants were asked to indicate how cold or warm they felt towards Black and White people using a five-point scale (1= very cold, 5= very warm). Prompted by the phrase, “Thinking more broadly about these questions…,” the questionnaire repeated the same two questions, but with the target groups changing to non-White and White people.

Each participant received an overall score that incorporated their ratings from the feeling thermometer and the preference measures. First, for the two ratings given for the Black versus White thermometer, a thermometer difference (TD) score was
created. For example, if a participant selected a “2” on the feeling thermometer for Black people and a “5” on the feeling thermometer for White people, this would indicate that they feel cold towards Black people and very warm towards White people. This participant’s TD score for Black versus White would be a “3.” Then, a preference score was tabulated for their Black versus White preference by making a score of “3” indicate no preference since ratings were given on a scale from “1 = Strongly Prefer Black” to “5 = Strongly Prefer White”

The same procedure was used to create each participant’s TD score for the non-White versus White thermometer and to create a preference score for their non-White vs. White preference. Next, we summed the Black versus White TD score and preference score to create a composite Black versus White score for each participant. Likewise, we summed the non-White versus White TD score and preference score to create a composite non-White versus White score. Finally, the composite Black versus White score and composite non-White versus White score were summed to produce an overall score ranging from -12 to 12 for each participant. This score indicated participants’ explicit attitudes towards White people versus non-White and Black people with a positive score indicating a pro-White bias, a negative score indicating pro-Black/non-White bias, and a score of 0 indicating no bias.

Adult Interracial Contact. A modified version of the Intergroup Contact Assessment adapted from McGlothlin & Killen (2006) was completed by adults to assess their contact with people of a different race or ethnicity (see Appendix D). We modified McGlothlin & Killen’s (2006) version of the task by not having adults use various picture cards that displayed the racial makeup of groups of people to answer the questions as was originally done with children. Instead we used the words ‘none’, ‘not many’, ‘some’, and ‘more than half’ to represent the racial or ethnic makeup of the settings we asked about. We also used relevant settings for adults. For example,
we added the workplace as one of the settings in which adults may interact with people of a different race or ethnicity. Adults were asked to estimate how many people of a different race or ethnicity they interact with in four different settings. The four settings included — in their friendships, family, workplace, and classes (if applicable). They indicated their answers using a four-point scale (0 = *none*, 1 = *not many* [hardly ever see], 2 = *some* [often see], 3 = *a lot* [more than half]). We created a composite score for each participant by taking the mean of each participants’ responses to the four questions. We excluded one participant in the college student sample because of failure to complete the part of the Qualtrics survey with the measure of interracial contact.

*Child Interracial Contact.* The mothers, but not college students, also completed a version of the Intergroup Contact Assessment on the child’s behalf (see Appendix E). They were asked to indicate how many people of a different race or ethnicity their child interacts with in six different settings. The six settings included — in their child’s town, neighborhood, school, clubs/teams, friendships, and family. Mothers indicated their answers using a four-point scale (0 = *none*, 1 = *not many* [hardly ever see], 2 = *some* [often see], 3 = *a lot* [more than half]). The mothers also answered questions about how often their child travels to places where people of a different race or ethnicity live, how often their child sees people of a different race or ethnicity on television, and how often their child read books with people of a different race or ethnicity in them. Like the scoring for the adult interracial contact measure, we took the mean of each mother’s responses to the six questions on behalf of their child to create one composite score for each child.
Child Responses

Implicit Racial Attitudes. The child version of the race Implicit Association Test (IAT) was used to assess children’s implicit racial attitudes (Baron & Banaji, 2006). See Appendix F for an example of the task. As for the adult test, it was administered on a laptop. However, negative and positive words were replaced with smiley and frowny faces. They were instructed to press one color button for frowny faces and a different color button for smiley faces and one button for Black faces and one button for White faces during the trial blocks. Additionally, they were shown photos of Black and White children’s faces instead of adult faces. Lastly, to help children better remember which sides corresponded to which stimuli they were presented with, photos were remained on either side of the screen during all five trial blocks. If children pressed the incorrect button during any of the trial blocks, they were given a chance to correct themselves.

In the first trial block, children categorized photos of White and Black children by pressing one button when they saw photos of White children and a different button when they saw photos of Black children in the middle of the screen. There was a photo of a Black child and White child on either side of the screen to help children better remember which buttons corresponded to which race during that trial block.

In the second trial block, they were instructed to press one button when smiley faces appeared on the screen and a different button when frowny faces appeared on the screen. In the third trial block, they were told that they would see children’s faces or smiley/frowny faces one at a time in the middle of the screen. They were instructed to press one button when smiley faces or White faces appeared on the screen and a different button if frowny faces or Black faces appeared on the screen.
In the fourth trial block, the buttons were reversed, and they categorized the photos of White and Black children again. In the fifth trial block, children were instructed to press one button when frowny faces or White faces appeared on the screen and a different button if smiley faces or Black faces appeared on the screen. The order in which children saw the White/Black and frowny/smiley pairings was counterbraced by subject number to avoid order effects.

The IAT produced a D-score for each participant where positive scores reflected pro-White bias and negative scores reflected pro-White bias. The break points for ‘slight’, ‘moderate’ and ‘strong’ pro-White bias were .15, .35, and .65 respectively (Greenwald et al., 2003). We excluded children who made more than 35% errors and/or responded faster than 400ms on more than 15% of the trial blocks, which indicated that they were not engaged with the task. Using this criterion, we excluded four children. A more conservative exclusion criterion used by Cvencek, Greenwald, and Melzoff (2011) specified excluding participants who responded faster than 300ms on more than 10% of the trial blocks. However, because a few participants responded fast on just over 10% of the trial blocks, we decided to only exclude those who responded fast on 15% or more of the trial blocks to preserve as much data as possible.

*Explicit Racial Attitudes.* A friendship preference task was used to assess children's explicit friendship preferences (see Appendix G). Children were presented with two photos at a time on a PowerPoint slide of different race, same gender children side-by-side and were asked, “Who do you want to be friends with?” Children answered by pointing to one of the photos presented to them and the experimenter coded their response on a piece of paper. The 12 counter balanced trials consisted of four White versus Black trials, four Asian versus White trials, and four Black versus Asian trials. The photos of children were previously validated so that
attractiveness did not influence responses. We calculated pro-White bias/anti-Black bias by computing the number of times the participant chose to be friends with the photograph of the White child over the Black child. We excluded one child who refused to do this part of the task, stating that he did not want to be friends with any of the children.

**Procedure**

**College Students**

Participants arrived at the laboratory and were given a consent form that explained their participation in the study and how they would be compensated. After receiving consent, an experimenter took them into a room to begin the study. First, participants completed the race IAT after the experimenter left the room. When they were finished, the experimenter had them complete a Qualtrics survey that consisted of three different assessments of colorblind endorsement, explicit racial attitudes, and interracial contact. They completed the assessments in that order. Lastly, the experimenter did a brief debriefing and provided the participants with a debriefing form for their records.

**Mother-Child Dyads**

The procedure began after mothers and children arrived at the laboratory and mothers completed consent forms on behalf of themselves and their children. The procedure was structured so that mothers completed assessments before the child was assessed so that mothers were not biased in their responses. The experimenter took mothers into a room to complete the assessments while a research assistant occupied the child in the waiting room. First, the experimenter began the race Implicit Association Test, instructed mothers to read the directions thoroughly and to inform them when they were finished. The experimenter then left the room. Once the
mothers indicated that they were finished, the experimenter navigated to the Qualtrics survey and instructed them to fill it out to the best of their ability before leaving the room again. Mothers completed the assessments in the following order: colorblind endorsement, explicit racial attitudes, own interracial contact, and child interracial contact.

Once mothers completed all assessments, the experimenter took children into a room that mothers could view from the waiting room. The mothers completed a general family background questionnaire while the child was occupied with the tests. The experimenter explained to the child that they would play two games during the session. The child completed the child version of the Race IAT on a laptop, followed by the friendship preference task. We followed the standard procedure for administering the child Race IAT (Baron & Banaji, 2006). An experimenter was present during each assessment and provided the child with clear instructions in the beginning and during each task.

After the child completed all of the assessments, the experimenter told mothers that they were finished with the study. The experimenter provided the mothers with a debriefing form and briefly described the purpose of the study.
Results

Overview

The purpose of this study was mainly twofold, to better understand the intergenerational transmission of racial attitudes especially through mothers’ colorblindness and to validate correlates in adults’ racial attitudes and evaluate the importance of measurements in studies that examine adults’ racial attitudes and the intergenerational transmission of bias. The analyses performed addressed these two purposes.

First, we aimed to validate correlates of adults’ racial attitudes through a sample of college students. Additionally, we used this sample to better understand the importance of the measurement instruments, especially those used in studies of intergenerational bias, in finding significant results. We hoped to use our instruments to replicate common findings related to correlates of adults’ racial attitudes. We conducted analyses to understand the relationship between interracial contact, racial colorblindness, implicit bias, and explicit bias using our measurements. These correlations can be found in the correlation matrix shown in Table 1. Then, we also performed exploratory analyses to ascertain whether results were different for non-White and White students. The results from this analysis can be found in Table 2.

In line with the main purpose of the study, the analyses were performed to better understand the relationship between mothers’ colorblind endorsement, mothers’ and children’s racial attitudes, and their interracial contact. These correlations can be found in the correlation matrix shown in Table 3. Exploratory analyses were also conducted to determine whether there were any differences in the responses for both non-White and White mothers and children. The results of the analyses for White and non-White mothers are shown in Table 4 and the results for White and non-White children are shown in Table 5.
Table 1. Correlations Among College Students’ Measures

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Note: *p = .10, **p < .01, two tailed
Table 2. T-test Results Comparing White and Non-White College Student’s Responses to Measures

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*Note: *p < .01, **p = .001, two tailed*
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Note: *p < .05, **p < .01, two tailed
Table 4. T-test Results Comparing White and Non-White Mothers’ Responses to Measures

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Table 5. T-test Results Comparing White and Non-White Children’s Responses on Measures

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College Students’ Measures

College Students’ Racial Attitudes

Implicit Racial Attitudes. On average, the 48 college students showed a moderate pro-White bias with a mean IAT score of .38 (SD = .33). However, scores ranged from -.28 (indicating pro-Black bias) to .97 (indicating pro-White bias).

Explicit Racial Attitudes. Overall, the participants showed a slight self-reported pro-Black/non-White bias with a mean score of -.63 (SD = 1.99). The scores ranged from -7 (indicating a pro-Black bias) to 4 (indicating a pro-White bias).

After conducting correlations for all the variables (see Table 1), we also found a highly statistically significant positive relationship between students’ implicit bias (M = .38, SD = .33) and explicit bias (M = -.63, SD = 1.99), r(46) = .37, p = .01.

College Students’ Interracial Contact

The mean score for the college students’ interracial contact was 2.63 (SD = .56). The scores ranged from 1.5 (indicating low interracial contact) to 3.75 (indicating high interracial contact).

College Students’ Colorblind Endorsement

The students had a low mean colorblind endorsement score of 2.77 (SD = 1.16). The scores ranged from 1 (indicating no colorblind endorsement) to 5.25 (indicating high colorblind endorsement).

Relationship Between College Students’ Interracial Contact and Racial Attitudes

Implicit Racial Attitudes. We explored the relationship between participants self-reported interracial contact (M = 2.63, SD = .56) and their implicit bias (M = .38,
The two variables were correlated in the predicted direction, but the correlation was not significantly significant, $r(45) = -.54, p = .59$.

*Explicit Racial Attitudes.* We also tested the relationship between students’ self-reported interracial contact ($M = 2.63, SD = .56$) and explicit bias ($M = -.63, SD = 1.99$). The two variables were negatively correlated as expected, and significant at an alpha level of .10, $r(45) = -.24, p = .09$.

### Relationship Between College Students’ Colorblind Endorsement and Racial Attitudes

*Implicit Racial Attitudes.* As one of the main aims of the study, we examined the relationship between colorblind endorsement ($M = 2.77, SD = 1.16$) and implicit bias ($M = .38, SD = .33$). We did not detect any significance in the association between the two variables and the direction of the correlation was not as expected, $r(46) = -.20, p = .18$.

*Explicit Racial Attitudes.* Additionally, we explored the relationship between students’ colorblind endorsement ($M = 2.77, SD = 1.16$) and explicit bias ($M = -.63, SD = 1.99$). The two variables were significant at an alpha level of .10 and expectedly positively correlated, $r(46) = .25, p = .10$.

### Differences in Responses Between White and Non-White College Students

We conducted further exploratory analyses using an independent samples t-test to ascertain whether there was a statistically significant difference between the 48 White and non-White college students’ responses on the 4 measures (see Table 2).

White students in the study had a significantly greater explicit preference for White individuals ($M = .209, SD = 1.083$) than did non-White students ($M = -1.540, SD = 2.265$) who had a greater explicit preference for Black/Non-White individuals,
$t(46) = -3.58, p = 001$. Additionally, non-White students in the study had significantly greater interracial contact ($M = 2.848, SD = .515$) than did White students ($M = 2.417, SD = .530$), $t(45) = 2.83, p = .007$).

**Mother-Child Dyad’s Measures**

**Mothers’ and Children’s Racial Attitudes**

*Mothers’ Implicit Racial Attitudes.* On average, the 22 mothers showed a moderate pro-White bias with a mean IAT score of $.47 (SD = .49). However, scores ranged from -.78 (indicating strong pro-Black bias) to 1.05 (indicating strong pro-White bias).

*Children’s Implicit Racial Attitudes.* Overall, the 28 children showed a slight pro-White bias with a mean IAT score of $.23 (SD = .41). However, the scores ranged from -.57 (indicating moderate pro-Black bias) to .96 (indicating strong pro-White bias).

*Mother’s Explicit Racial Attitudes.* The mothers reported no explicit racial bias with a mean score of $.00 (SD = 1.52). There was less variation in the explicit racial attitudes scores for the sample of mothers (range = $-7 – 2$) compared to the sample college students (range = $-7 – 4$).

*Children’s Explicit Racial Attitudes.* On average, children showed pro-White bias/anti-Black bias in choosing to be friends with the White child over the Black child 66% of time ($SD = 3.10$). The percentage of times children chose to be friends with the White child over the Black child ranged from 25% to 100% of the time.

**Mothers’ and Children’s Interracial Contact**

*Mothers’ Interracial Contact.* The mean score for the mothers’ interracial contact was 2.13 ($SD = .67$). The scores ranged from .75 (indicating low interracial contact) to 4 (indicating high interracial contact).
Children’s’ Interracial Contact. On average, the children’s interracial contact’s score was 2.65 (SD = .68). Children’s scores ranged from .89 (indicating low interracial contact) to 4 (indicating high interracial contact).

After performing correlations between all the variables concerning mothers and children (see Table 3), we found that the relationship between mothers’ interracial contact (M = 2.13, SD = .67) and children’s interracial contact (M = 2.65, SD = .68) was highly significant, r(26) = .48, p = .01.

Mothers’ Colorblind Endorsement

The mothers showed a close-to-high mean colorblind endorsement score of 3.74 (SD = 1.37). However, the scores ranged from 1 (indicating no colorblind endorsement) to 7 (indicating the highest colorblind endorsement).

After performing correlations between all the variables concerning mothers (see Table 3), we detected a significant positive relationship mothers’ colorblind endorsement (M = 3.74, SD = 1.37) and implicit bias (M = .47, SD = .49), r(25) = .39, p = .04.

Differences in Responses Between White and Non-White Mothers and Children

We conducted further exploratory analyses using an independent samples t-test to ascertain whether there was a statistically significant difference between the 21 White and non-White mother’s responses and the 28 White and non-White children’s responses (see Table 4 and 5).

Mothers’ Responses. Although there were not any statistically significant differences between White and non-White mothers’ responses, we obtained a medium effective size (d = .52) after conducting a t-test to see whether there was a difference between White and non-White mothers’ explicit racial attitudes. On average, White
mothers had an explicit preference for White individuals \((M = .420, SD = .793)\) and non-White mothers had an explicit preference for Blacks/non-White individuals \((M = - .500, SD = .537)\), \(t(20) = -1.26, p = .221\).

**Children’s Responses.** Again, there were no statistically significant differences between White and non-White children’s responses. However, we obtained a medium effect size \((d = .52)\) testing whether there was a difference between White and non-White children’s implicit racial attitudes. On average, non-White children in the study had a slightly lower pro-White implicit bias \((M = .121, SD = .410)\) than did White children \((M = .331, SD = .405)\), \(t(22) = -1.26, p = .222\).

Additionally, we obtained a medium effect size \((d = .52)\) using a t-test to see whether there was a difference between White and non-White children’s interracial contact. On average, non-White children had slightly more interracial contact \((M = 2.815, SD = .515)\) than did White children \((M = 2.476, SD = .772)\), \(t(26) = 1.39, p = .176\).

**Relationship Between Children’s Interracial Contact and Racial Attitudes**

**Implicit Racial Attitudes.** Another main aim of study was to replicate findings on the relationship between children’s interracial contact \((M = 2.65, SD = .686)\) and implicit bias \((M = .23, SD = .41)\). The association between the two variables was unexpectedly positive, but statistically insignificant, \(r(22) = .19, p = .37\).

**Explicit Racial Attitudes.** We also explored the relationship between children’s interracial contact \((M = 2.65, SD = .686)\) and explicit bias \((M = .66, SD = .31)\). The predicted negative relationship between the two variables was almost significant at the .10 alpha level, \(r(25) = -.31, p = .11\).
Relationship Between Mothers’ Interracial Contact and Children’s Racial Attitudes

Implicit Racial Attitudes. We explored the relationship between mothers’ interracial contact ($M = 2.13$, $SD = .67$) and children’s implicit bias ($M = .23$, $SD = .41$). The two variables were unexpectedly not correlated, $r(22) = -.01$, $p = .98$.

Explicit Racial Attitudes. We examined the relationship between mothers’ interracial contact ($M = 2.13$, $SD = .67$) and children’s explicit bias ($M = .66$, $SD = .31$). Again, the two variables were unexpectedly not correlated, $r(25) = -.15$, $p = .98$.

Relationship Between Mothers’ Colorblind Endorsement and Child’s Racial Attitudes

Implicit Racial Attitudes. One of the main purposes of the study was to better understand the relationship between mothers’ colorblind endorsement ($M = 3.74$, $SD = 1.37$) and children’s implicit bias ($M = .23$, $SD = .41$). The relationship between the two variables was not significant, $r(22) = -.21$, $p = .31$.

Explicit Racial Attitudes. Furthermore, we explored the relationship between mothers’ colorblind endorsement ($M = 3.74$, $SD = 1.37$) and children’s explicit bias ($M = .66$, $SD = .31$). The correlation between the two variables was statistically insignificant, $r(25) = .14$, $p = .50$. 
Discussion

Because there is evidence that racism and prejudice persist in society, research must be performed to understand the mechanisms behind it in order to create a more just society. Both explicit and implicit biases can play a part in the development of prejudice. Colorblindness is a potentially well-intentioned version of bias that is prevalent in many communities, but especially in White communities. Although the ideology involves the attempt to not notice or discuss race in an effort to treat all individuals equally, this avoidance of discussions about race has been linked to negatively impacting intergroup attitudes.

Furthermore, the colorblind ideology is especially concerning in regard parenting and the development of children’s racial attitudes as the ideology may allow for biases to be intergenerationally transmitted through parents, even those with potentially good intentions. Because colorblindness is so heavily promoted in some households and because we live in a society that is not colorblind but in reality, plagued with racism and prejudice, attention must be drawn to the possible concerning outcomes this ideology may be having on children’s social cognition and racial attitudes.

The primary purpose of this study was to examine the effects of mothers’ colorblind endorsement on children’ racial attitudes and to replicate previous work on the relationship between parents’ and children’s racial attitudes. The secondary purpose was to determine the importance of measurements in studying the influence of colorblindness on adults’ racial attitudes as well as replicate past findings on the correlates of these attitudes in adults.

We developed hypotheses for each purpose of the study. Addressing the primary purpose of the study, we predicted that stronger colorblind endorsement in mothers would be correlated with higher racial bias in children, higher interracial contact experienced by mothers and children would be correlated with lower racial
bias in children, and that mothers’ and children’s implicit bias would be correlated. Addressing the secondary purpose of the study, we hypothesized that stronger endorsement of colorblindness would predict higher racial bias and that higher interracial contact would be correlated with lower racial bias in adults.

The results suggested that mothers generally endorsed colorblindness to some degree and had moderate pro-White implicit bias, although they did not report any explicit bias for Whites or Black/non-White individuals. Although our sample also included non-White parents, we still detected a moderate level of colorblind endorsement amongst the sample and there were not any statistically significant differences between White and non-White mothers’ levels of colorblind endorsement. Furthermore, not all White mothers highly endorsed colorblindness in our measure though other studies have indicated that nearly all the White mothers in their sample held colorblind attitudes (Katz, 2003; Pahlke et al., 2012).

The results related to mothers’ pro-White implicit bias and self-reported explicit racial attitudes are also in line with previous research showing that even members of the minority group show a moderate implicit preference for Whites (Nosek, Banaji, & Greenwald, 2002) and that adults are unlikely to report their explicit racial attitudes due to social norms against discriminatory behavior (Dovidio & Gaertner, 1991). Additionally, the results indicated that mothers’ implicit bias, but not explicit bias, was positively related to their colorblind endorsement. Thus, higher colorblindness was associated with higher pro-White implicit bias. This is consistent with research indicating that higher endorsement of colorblindness is predictive of higher implicit bias, though one study that measured both found colorblind endorsement to be predictive of explicit bias as well (Richeson & Nussbaum, 2004).

In line with previous research, children generally had a slight pro-White implicit bias and a pro-White friendship preference, choosing to be friends with the White child over the Black child 65% of the time. In terms of the relationship
between the variables concerning mothers and children, we found that mothers’ implicit bias was negatively correlated with children’s interracial contact. There is not any literature supporting this finding to my knowledge, but it is possible that levels of implicit bias in mothers is related to the amount of importance they place and how much effort they put into having their children interact with individuals of different races. Additionally, we found that mothers’ interracial contact and children’s interracial contact was positively correlated. This finding was similar to Pahlke et al.’s (2012) finding that White children’s interracial friendships were consistent with the racial makeup of their White mothers’ friend group, which was predominately White. Our results indicate that this is the case even in our sample of White and non-White mothers and children.

In the sample of college students, participants slightly endorsed colorblindness, had a moderate pro-White bias, and reported a slight explicit bias in favor of Blacks/non-White individuals. Contrary to the sample of mothers and partially consistent with previous research, we found that students’ explicit bias, but not implicit bias, was positively related to their colorblind endorsement. Thus, higher colorblindness was associated with higher explicit pro-White bias. We also found that students explicit bias and implicit bias were positively correlated, a finding that was not true in our sample of mothers. This is likely because of the very little variability in mothers’ responses on the explicit bias measure compared to the college students’ responses. However, this finding is consistent with studies that have detected a relationship between implicit racial attitudes and explicit racial attitudes (Cunningham, Preacher, & Banaji, 2001; Dovidio, Kawakami & Gaertner, 2002; Nosek, 2005).

There were a few predictions for the present study that did not come to fruition in the current data set. We did not find evidence to support the hypothesis that higher interracial contact would be correlated with lower racial bias in adults.
although numerous studies have found this relationship between the two variables (Dovidio, Love, Schellhaas, & Hewstone, 2017; Lemmer & Wagner, 2015; Pettigrew & Tropp, 2006).

Most importantly, we were unable to detect a correlation between stronger colorblind endorsement in mothers and higher racial bias in children. However, this is a replication of Pahlke et al.’s (2012) finding that mothers’ colorblind socialization did not predict children racial attitudes. We also did not find a correlation between mothers’ implicit bias and children’s implicit or explicit bias. We at least expected mothers’ implicit bias to be correlated with children’s implicit bias because of the literature that indicates that this is when mothers’ and children’s racial attitudes are most correlated (Castelli et al., 2009; Pirchio, Passiatore, Panno, Maricchiolo, & Carrus, 2018; Sinclair, Dunn, & Lowery, 2005). However, as touched on by both Pahlke et al. (2012) and Vittrup (2018), it is important to note that colorblind socialization makes parents unable to gage children’s racial attitudes or provide messages to counter prejudice since discussions about race are avoided. In turn, children’s racial attitudes may be incongruent with mothers’ explicit attitudes. The reason we did not find a correlation between mothers’ and children’s implicit bias may have been because our sample size of only 28 children, 4 of which were excluded from analyses, and 22 mothers was too small to detect any significant correlations.

The finding that mothers’ colorblind endorsement was uncorrelated with children’s racial attitudes adds to the scarce literature on the topic. If true, and not an issue of sample size, this demonstrates that even when using a measure of parents’ colorblind endorsement, rather than asking them to identify the practices they engage in with their children that support colorblind socialization, we still could not detect a relationship between mothers’ endorsement of the colorblind ideology and children’s racial attitudes. However, as Pahlke et al. (2012) stated, colorblind socialization may
still prevent mothers with anti-racist viewpoints from providing children with messages that support their positive or neutral racial attitudes towards different races. As mentioned, one explanation for this null finding may be that our data set was too small to find any significant correlations between mothers’ colorblind endorsement and children’s racial attitudes.

**Limitations and Future Research.** The largest limitation of this study was the small sample that was obtained for the mother-child dyads. This sample size restricted our ability to perform regression and path analyses to test predictors of children’s racial bias. We likely had an issue of not having enough statistical power to detect statistically significant effects as many of the correlations we conducted were close to being significant. Additionally, because of the small sample, we were unable to test the hypothesis that we believed would show the largest effect and add new knowledge to the literature, focusing on the role of implicit bias in colorblind parenting and the effects on children’s racial bias.

The hypothesis that we initially aimed to test was that mothers’ high colorblind endorsement *combined with* high implicit bias would be predictive of higher racial bias in children. In this case, mothers’ high colorblindness might have been related to children racial attitudes, *but* when mothers’ implicit bias was high as well. In cases where mothers had high implicit bias, but did not endorse colorblindness and actually discussed race, we would predict that the negative transmission of implicit biases may be mitigated. If we were able to conduct these analyses, we may have been able to conclude that mothers who choose to be colorblind when they hold negative implicit biases that are difficult to control, will negatively affect their children’s racial attitudes more so than mothers who discuss race with their children. This hypothesis also highlights the importance that it may have been to include measures of implicit bias in Pahlke et al.’s (2012) study.
addressing the relationship between mothers’ colorblind socialization and children’s racial attitudes.

Additionally, the size of the data set prevented us from examining potential differences in racial attitudes of different aged children within the same family. Although we attempted to perform these analyses by collecting data from siblings, we were only able to collect this data from six pairs of siblings. Future directions should include collecting more data from pairs of siblings to examine whether mothers’ colorblind endorsement and children’s racial attitudes have a different association with children’s age. For example, it is possible that children gain more agency in developing their racial attitudes as they grow older and that with age, their mothers’ colorblindness is less predictive of their racial attitudes.

Furthermore, future iterations of this study should examine the influence of the experimenter’s race on the tasks as this is suggested to be a possible influence on tasks involving racial awareness (Lowery, Hardin, & Sinclair, 2001; Schuman, Steeh, Bobo, & Krysan, 1997). In the current study, the mother-child dyads were all tested by an African American experimenter. The experimenter for the college students varied as some were tested by an African American experimenter, while others were tested by White or White-passing experimenters. As literature has shown, this may have affected participants’ response because participants may have felt the need to conform to norms consistent with social desirability when responding to the questionnaires about thoughts on race. Lowery, Hardin, and Sinclair (2001) demonstrated that social influence can even affect automatic racial prejudice when White participants in their study exhibited less automatic prejudice in the presence of a Black experimenter compared to when they were in the presence of a White experimenter. Therefore, possible experimenter effects regarding race should be taken into consideration when analyzing future data for this study.
Further limitations may have included the use of the Implicit Association Test (IAT) to measure implicit racial attitudes. In recent years, the test has been criticized for not predicting attitude endorsement and behavior, but instead measuring “environment associations” learned through exposure in society (Karpinski & Hilton, 2001). Despite this, the IAT has been used in countless studies and can reveal meaningful negative and positive associations an individual may have between the two concepts in question. Others measures of implicit bias that literature has used include the affect misattribution procedure (Payne, Cheng, Govorun, & Stewart (2005), semantic priming tasks (Wittenbrink, Judd, & Park, 1997), and evaluative priming tasks (Gawronski, Deutsch, Mbirkou, Seibt, & Strack, 2008). It may be useful to test whether the results of this study replicate when using these tasks to evaluate participants’ implicit racial attitudes in future research.

In summary, future research examining the relationship between mothers’ colorblind endorsement and children’s racial attitudes as well as research on predictors of children’s racial attitudes will need to conduct linear regressions and path analyses to better understand the causal relationships between these variables. Though this was the ultimate goal for the analyses of this thesis, the sample size did not allow for such analyses. Once the sample size is larger and more informative analyses than correlations are conducted, we may be able to detect significant causal relationships between mothers’ racial colorblind endorsement, mothers’ racial attitudes, and children’s racial attitudes. Future iterations of the study should examine the hypothesis that mothers’ implicit bias, a type of automatic bias that is difficult to control, will be most correlated with children’s higher racial bias when mothers more strongly endorse colorblindness. This hypothesis may provide significant and meaningful results that support the prediction that mothers’ implicit bias may be crucial in the intergenerational transmission of racial attitudes to children when racial colorblindness if heavily endorsed in the household. Additionally, future research
may benefit from replicating results with other measures of implicit racial bias, examining possible age effects for the relationship between mothers’ and children’s racial attitudes, and examining the influence of experimenter race on participants’ responses on the tasks.
Conclusion

Despite our limitations, we replicated previous findings that in adults, higher endorsement of colorblindness is correlated with higher explicit and implicit racial bias in favor of Whites. This finding provides further support that subscribing to a colorblind mentality may actually be detrimental to reducing racial bias and prejudice contrary to beliefs held by some well-intentioned individuals. Because this strategy is ineffective, individuals may need to address issues of race and ethnicity explicitly instead of avoiding the topic, which may allow for biases to foster. Also, although limitations prevented us from testing our prediction about the role of mothers’ implicit bias in the relationship between their colorblind endorsement and children’s racial attitudes, we proposed a hypothesis that will potentially provide new directions for better understanding the effects of colorblind parenting on children’s implicit and explicit racial attitudes. Since the colorblind ideology has been proven to be ineffective at reducing racial biases, parents may need to think about the ways in which they intergenerationally transmit racial biases by choosing to avoid meaningful race-related conversations with their children.
References


Appendix A
Adult Colorblind Endorsement Assessment

Please indicate your degree of agreement with each item.

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Somewhat disagree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is more important to be colorblind than to celebrate differences in race and ethnicity.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2. Talking about racial issues causes unnecessary tension.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3. If everyone paid less attention to race and color, we would all get along much better.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>4. When I interact with people I try to not even notice the color of their skin.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Appendix B

Adult Race Implicit Association Test

Instructions: Participants had to categorize the middle photo as belonging to either the left or right side of the screen (using either “I” or “E” buttons on the keypad). This is an example of how the first three trial blocks could appear.

![Example Image](image_url)
Appendix C

Adult Explicit Racial Attitudes Assessment

<table>
<thead>
<tr>
<th></th>
<th>1 = very cold</th>
<th>2 = cold</th>
<th>3 = neutral</th>
<th>4 = warm</th>
<th>5 = very warm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please rate how cold or warm you feel towards Black people.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>1 = very cold</th>
<th>2 = cold</th>
<th>3 = neutral</th>
<th>4 = warm</th>
<th>5 = very warm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please rate how cold or warm you feel towards White people.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

**Please indicate the statement you most agree with.**

- ○ I strongly prefer Black people to White people.
- ○ I moderately prefer Black people to White people.
- ○ I like Black people and White people equally.
- ○ I moderately prefer White people to Black people.
- ○ I strongly prefer White people to Black people.
Appendix D
Adult Interracial Contact Assessment

How many people of a different race or ethnicity are in your...

<table>
<thead>
<tr>
<th></th>
<th>ALOT (more than half)</th>
<th>SOME (often see)</th>
<th>NOT MANY (hardly ever see)</th>
<th>NONE</th>
<th>× N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>friendships?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>family?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>workplace?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>classes?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Appendix E

Child Interracial Contact Assessment

Please indicate your degree of agreement with each item.

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Somewhat disagree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is more important to be colorblind than to celebrate differences in race and ethnicity.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2. Talking about racial issues causes unnecessary tension.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3. If everyone paid less attention to race and color, we would all get along much better.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>4. When I interact with people I try to not even notice the color of their skin.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Appendix F

Child Race Implicit Association Test

Instructions: Participants had to categorize the middle photo as belonging to either the left or right side of the screen (using either the yellow or blue buttons labeled on the keypad). This is an example of how the first three trial blocks could appear.
Appendix G

Child Friendship Preference Task

Instructions: Children were shown two photos of same gender, different race children at a time and were asked to point to who they wanted to be friends with. This is an example of one of the 12 slides.