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MOTHERS' COGNITIVE EMPATHY TOWARDS THEIR BIRACIAL CHILDREN

by

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**SUBMITTED TO SCRIPPS COLLEGE IN PARTIAL FULFILLMENT OF THE
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Abstract

Limited research has been conducted on biracial people. Of the current research that examines mother's cognitive empathy towards her child, there is little focus on how the differences in perceived racialization of the child (child is perceived as racially similar, dissimilar, or mixed in comparison to his or her mother) may influence mother's cognitive empathy towards her child. The current study will question whether perceived phenotypic racialization of the child, race of the mother, gender of the child, and diversity of the neighborhood that the mother and child live in influence mothers' cognitive empathy towards their children. The participants will be 480 mothers who are Asian (120), Black (120), Hispanic (120), and White (120), whose first-born child is biracial, male or female, and between the ages of 7 and 10. Participants will complete an adapted version of the Parent Development Interview (PDI), coded with a modified version of the Parent Affective and Cognitive Empathy Scale (PACES). The results will show that there are significant differences in how mothers empathize with their children due to a range of variables. The findings will add to the literature on biracial people and may help aid future studies on the implications that differing levels of cognitive empathy have on mother-child relationships and development.

Keywords: cognitive empathy, mother, child, race, biracial

Imagine your child is teased at school. Could you understand why he or she was upset? Cognitive empathy is defined as having the ability to accurately recognize and understand another's emotional state. Previous research has investigated how a mother's cognitive empathy for her child is influenced by how similarly the child resembles his or her mother, the race of the mother, the gender of the child, and the diversity of the neighborhood that the mother and child live in. Therefore a question raised is, "How do these factors influence mothers' cognitive empathy towards their children?"

Empathy, evolution, and attachment

Evolutionary theory describes the existence and importance of empathy in conjunction with attachment. From a Darwinian lens, parents must recognize and respond to their child's biological needs in order to ensure survival of that child, and therefore, ensure the survival of themselves and their lineage. Oppenheim et al. (2001) described the importance of secure mother-child relationships and how mothers should have the capacity to see things from their children's perspectives. In doing so, mothers take into account their children's feelings, motives behind behaviors, wishes, and goals. Bowlby (1982, as cited in Oppenheim et al., 2001) stated that the parent-child relationship is a "goal-corrected partnership," which means that both the parent and the child must try to understand one another and take into consideration the other's perspective. Oppenheim et al. (2001) studied maternal empathic understanding, which reflects emotional and cognitive maternal processes, using the Maternal Empathic Understanding Procedure (MEUP), which was designed to examine mother's understanding of their child's behavioral motives. Mothers watched videotaped segments of interactions between themselves and their children as well as between the examiner and their children. They were asked open-

ended questions about their children's thoughts and feelings as well as their own feelings and observations. By having open-ended questions, researchers used a "narrative coherence" model, which allowed for mothers to form a response to a question about their child (Stern, 1995, as cited in Oppenheim et al., 2001). The ability to form a coherent, full, and plausible narrative describing the child's experiences, feelings, or motives was assessed and given priority attention over specific content describing each child. Therefore, the purpose of the study was to examine how mothers talked about their children's experiences and how that was correlated with how empathic they were towards their children. There were 118 children and their mothers who made up the longitudinal study. For the MEUP, mothers were asked to describe their children. After, they watched three video clips, two of which included the mother and the child, and the final clip included the child and the examiner. Following the tasks, mothers were asked questions including, "What do you think went through your child's head during this episode, what did he/she think, feel?" Mothers were then asked general questions about their children such as, "In general, based on what we have seen today and your familiarity with your child, what are the things that characterize your child the most?" Throughout the interview, mothers were asked to support their responses with observational evidence and personal stories. To code maternal empathic understanding, transcripts were coded on ten 7-point rating scales, which included insight into children's motives, openness/flexibility of thought, and balance/complexity in description of children. Overall, mothers were categorized into four groups of understanding: Balanced, one-sided, disengaged, and mixed. Balanced mothers showed high empathic understanding of their children and secure attachment, while disengaged mothers showed low empathic understanding and insecure attachment. The results from this study show that empathic understanding of children is important in attachment between mothers and children.

Cognitive empathy

An extensive amount of research has been conducted on cognitive empathy across a wide variety of topics. The amount of research reduces when analyzing cognitive empathy within the context of parent-child relationships. Previous research on cognitive empathy in mother-child relationships has focused on the child's empathy. Therefore, most measures of cognitive empathy are designed for children. One scale for child's empathy is the Kids' Empathic Development Scale (KEDS), which measures complex emotion, mental state comprehension, and behavioral empathy (Reid et al., 2013). In a study with 220 children between the ages of 7 and 10 years of age, children were shown 12 photos with simple line drawings of events with single or multiple characters without faces. Participants were asked to point to one of six pre-identified emotions for what they inferred the facial expression on the faceless people should be. Following this task, children were asked a series of questions to test their cognitive, affective, and behavioral empathy. An example of a cognitive question was, "Can you tell me why this boy/girl/man feels [emotion]?" An example of an affective question was, "How do you think this boy/girl/man feels?" and an example of a behavioral question was, "What would you do, if you were that boy/girl/man?" The results from this study showed that there is a distinctive difference between cognitive, affective, and behavioral empathy.

Of the few measures on adult empathy, one is the Basic Empathy Scale in Adults (BES-A). In a study consisting of 370 participants (260 women and 110 men), participants were given the BES, which is a 20-item scale that measures cognitive and affective empathy. Participants gave ratings to statements such as, "I have trouble figuring out when my friends are happy" on a 5-point Likert scale where 1 = "strongly disagree," 3 = "neither agree nor disagree," and 5 = "strongly agree." The results from this study may show that understanding how people think and

behave based on their emotions in different social contexts and emotional contexts is important, and therefore research on cognitive empathy is important in parental development. Another measure is the Parent Empathy Measure (PEM), which is a 24-item self-report measure that includes subscales of cognitive and affective empathy. Participants indicated the degree to which they agreed or disagreed with a series of statements such as, "I can tell when my child is happy about something" or "When my child is happy, I can understand why" on a 5-point Likert scale (1 = not true at all, 3 = somewhat true, and 5 = very true).

Stern et al. (2015) conducted a study on parental empathy and its role in child attachment, which provides more emphasis and detail into what parental empathy is. They define cognitive empathy as the conscious understanding of another's emotion by taking his or her perspective. They have begun to address a gap in the literature on parental empathy by developing a new scoring system, the Parent Affective and Cognitive Empathy Scale (PACES), which rates parents' empathy from their narrative responses to 13-emotion related questions from the Parent Development Interview (PDI). For each question, trained coders rate parents' affective and cognitive empathy, as well as their empathic behavior. For cognitive empathy, trained coders look for the quality of parent insight into the child's emotional experience (e.g. takes cognitive perspective of child, attributes plausible emotion to child, explores potential causes for child's emotion, and links child's emotion to behavior). They rate this on an 11-point scale from -1 (anti-empathic, hostile, rejecting) to 9 (exceptional, insightful) with 5 as basic empathy. Examples of basic empathy include statements such as, "If I had been in [child's] shoes, I would've thought the teacher was being mean too." Insightfulness is considered a core factor of cognitive empathy, including being able to take the perspective of the child, being open to new information about the child, and holding complex views of the child's mind (Oppenheim et al.,

2001). The study sought out to develop a measure that was both reliable and valid, and the results from this study support this intention.

Adopted children: same race versus transracial

The majority of research between adoptive mothers and their children discuss the relationship between mothers whose children are racially the same as them and mothers whose children are racially different. The following research gives reason to believe that there may be differences between cognitive empathy of mothers who look like their children versus mothers who do not look like their children and the influence that appearance has on how a mother can cognitively empathize with her child.

Klevan (2014) took the narratives of 38 married, heterosexual, and infertile adoptive parents who either adopted children of the same race or of a different race, and analyzed the level of resolved feelings that the couples felt after being told that they could not give birth to a child of their own. Of the narratives written, the majority of men and women described the mother as their main character. They described the suffering that the mother went through after learning that she was infertile and the path that she took to be an adoptive mother. The most difficult topic of conversation for participants was race, particularly in this context of adoption. A transformational processing model was used, which essentially has a person acknowledge and explore the emotional impact of an event (in this case, infertility) in depth and find a positive resolution by seeing the self with a positive ending. In doing so, the person would see himself or herself positively transformed. This was used to rate participants' sense of acceptance of race. For men and women who adopted a child who was of the same race as them, there was more emphasis placed on teaching the child about his or her role as a member of a broader belief

system. There were not specific issues that the parents chose to focus on to discuss with the child regarding race. Rather, they spoke in a broader sense about what the parents valued and what society at large places value on. Klevan found that it was very important for parents who adopted children of the same race to adopt a child that looked like them. This was correlated with their level of satisfaction. On the other hand, parents who adopted children that were of a different race, or transracial adoptees, placed more emphasis on making sure that the child was comfortable in the community that they were growing up in, since it was most likely a community where they would be the minority. For example, if the adoptive parents were White, there was a great chance that the parents lived in a homogenous neighborhood, in which case, adopting a child who is not White would make that child the minority. Parents wanted to teach their adopted children to be comfortable among people who did not look like them. Making sure that the child was comfortable in a new environment was correlated with the level of satisfaction of the parents. For parents with transracial adoptions, those that talked about race with their child said that they learned to “deal with it.” Those who adopted children outside of their own race who did not talk about race struggled with the issues later on as the child became more aware of his or her race and identity. The two main problems that the parents faced stemmed from (1) their discomfort surrounding the topic of race and (2) their unawareness of the politics around race. Other issues came from subconscious assumptions that parents made about their child influenced by his or her race and the unshared experiences that wedged a gap between mothers and daughters specifically.

Gibbons and Smith (2012) described the differences between same race adoption, transracial adoption, and transnational adoption. The most visible adoptions are those that are transracial and oftentimes transnational as well because the physical differences between

adoptive parents and adopted child are so apparent (Grotevant et al., 2000). According to the U.S. Department of Health and Human Services (2000), around 15% of adoptions in 1998 were transracial or transcultural adoptions, and according to the National Health Interview Survey (NHIS) performed in 1987, 8% of all adoptions were transnational, transcultural, or transracial. Six percent of White women adopted children who were of different races from them, and only 2% of women of other races adopted White children. The U.S. Department of Health and Human Services (2011) reported that African American, Hispanic, Asian American, and Native American children made up 60% of the children in foster care waiting to be adopted and Bartholet (1991) found that most mothers wanting to adopt a child were White. Due to the higher proportion of White mothers adopting children of different races, and due to the fact that more children of color were being put into foster care, there was an increased perception formed by people that associated adopted children with children of color and adoptive parents most frequently as White.

Overall, previous research on adopted children shows that there are significant differences between how parents, and mothers in particular, feel close or can empathize with their child based on what the child looks like and how the child appears in relation to the parents. These findings may support the hypothesis presented in the current study about how perceived phenotypic racialization of a child in comparison with his or her mother may influence how the mother cognitively empathizes with her child.

Biracial children

To be biracial means to be a member of two separate racial groups. A child can be biracial if his or her mother is one race (e.g. Black) and his or her father is another race (e.g.

Asian). There has been very limited research that has concentrated on biracial children and their mothers. Past research has examined the racial socialization between mother and child, such that how a mother talks and how frequently a mother talks about race with her child will influence how the child develops his or her racial identity. Racial socialization is the transmission of messages from mother to child, which nurtures an understanding and awareness of race, racism, and cross-race relationships (Hughes et al., 2006, as cited in Rollins, 2009). Rollins (2009) conducted a study that consisted of 104 biracial adolescents and their mothers. Mothers engaged in a variety of racial socialization messages that were considered cultural, minority, mainstream, or nonexistent messages. Cultural socialization was defined as the transferal of traditions and values that were embedded in culture. Minority socialization referred to strategies that were used by parents to prepare, buffer, and protect their minority children from racial and discriminatory beliefs and practices exercised by the majority group. Mainstream messages tended to encourage individuality above all else. No racial socialization was the parents' avoidance or absence of talking about race, racism, and cross-race relationships, and this was considered a way of silencing issues of racism and discrimination. The study showed that mothers from a range of racial backgrounds used various strategies with their children, which had different implications on their child's development. Black mothers tended to use mainstream racial socialization messages, which parents used to teach their children how to be successful within mainstream society by downplaying racial group affiliation and negotiating with the dominant culture. In doing so, parents would try to give their children the best chance at success in a predominantly White society, by teaching them about hard work, good citizenship, and moral virtues. Other minority mothers as well as White mothers were more likely to not use direct racial socialization methods. Cultural socialization was positively associated with racial

identity and self-esteem and was negatively associated with psychosocial or depressive problems. Minority socialization also showed positive self-identity for children because they had a greater understanding of racism and prejudice as described by Quintana and Vera (1999, as cited in Rollins, 2009). Results from raising a child using mainstream socialization showed that children were more independent and exhibited hard work and strong self-worth. The outcomes of no racial socialization included children's lower self-efficacy and lower academic achievement. The study found that when mothers of biracial children used mainstream socialization, they taught them about having self-esteem and self-acceptance, and they tried to protect them from the effects of racism and discrimination. Mainstream socialization was the most common socialization among mothers of biracial children, with no racial socialization as a close second. Some potential reasons for not having any racial socialization were that mothers were uncomfortable or did not have the knowledge to talk about race and discrimination. Overall, parents of biracial children wanted to protect their children from racism and discrimination, because their biracial, interracial experiences were different from their peers. However, not talking about race or avoiding talking about race by talking about how to be an individual using mainstream methods, may not be a much better approach. More needs to be done for mothers to talk with their children using cultural socialization. Therefore, more research and education strategies must be examined and utilized in order to aid in the development of biracial children.

Mothers of biracial adolescents reported using a combination of messages that were mainly proactive, protective or nonexistent. Proactive messages were associated with racial identity salience, and White mothers who adopted a child of a different race and who did not use proactive messages were more likely to report lower racial salience. White mothers were more

likely to report not using any racial socialization strategies. Similar to the adoptive mothers experiences, mothers of biracial children dealt with internal and external identity struggles. This may have been influenced by a variety of factors such as environment or location that the mother and child lived in and whether or not that location was somewhere where the mother was the minority or did not appear to fit in with the community that her child was perceived to belong to. Conversely, if the location was somewhere where the mother was the majority and her child was not perceived to racially be a member of the community, which also could have influenced the mother's inner and outer struggles.

Lyles et al. (1985) conducted a case study on an eleven-year-old girl, Mary, who had Black and White parents. Mary was a light-skinned girl who had identifying Black features, such as her hair. It was clear that she had internalized racism when she said that she did not like Black people with big lips. Her role models were only White athletes. Her White cousin and her were best friends until her cousin's friends started to identify Mary as Black and did not think that her cousin should be friends with her. In a community, and even within a family, that does not respect people of different races, it may be difficult to empathize with what the child is going through. Furthermore, past research on biracial children tends to focus on the tension and uneasiness of parents talking about race with their child. This may imply that parents, and mothers in particular, are aware of race when they look at their children. This may influence the cognitive empathy that a mother has towards her child, especially if the child is perceived as or identifies with the race that the mother does not belong to.

Though the field of research that currently exists on biracial children is narrow, the significant differences between empathy of mothers towards adopted children of the same race and empathy of mothers towards adopted children who are of different races suggests that there

are differences in cognitive empathy for mothers with biracial children due to differences in perceived racialization between the mother and child.

Kin detection

Detecting who is related to whom, or kin detection, relies on heuristic cues such as who the primary caregiver was, who the child grew up with, as well as appearance (e.g. How people smell or what people look like relative to others), and ability to arouse certain feelings (e.g. Whether one feels emotionally close to another). Consciously or unconsciously, preferences and decisions that people make about who they want to be friends with, who they are attracted to, who they would help altruistically, and who they would want to harm is affected by kin detection (Bressan & Kramer, 2015). Furthermore, inclusive fitness theory, a theory in evolutionary biology, predicts that an organism's genetic success is derived from altruistic behavior and that organisms will tend to help close kin more than other individuals (Bressan & Zucchi, 2009). Altruism among organisms who share some amount of genes enables those genes to be passed on to succeeding generations. Therefore, by helping others who share some of the same genes, both organisms benefit and extend the life of their lineage. In a study with 70 twins as participants (identical and fraternal), digital photographs of the participants' faces with a neutral expression were taken two months before the experiment with the backgrounds of the photos removed. A photo of a same-sex model was manipulated to include facial features of the twin participants. Morph pairs for identical twins were very similar but not impossible to tell apart (Bressan & Zucchi, 2009). Each twin pair was tested one after the other, and each participant was shown two images; one was the self-morph (participant's face morphed with model) and the other was the twin-morph (co-twin's face morphed with model). The participants were asked, "Which of

these two people would you help in case of danger?" and "If you wished to encourage your brother/sister to marry one of these two people, which one would you choose?" These questions were chosen to reflect altruism, with the desire to help someone and with the desire to bring someone into the family as a sibling-in-law, respectively. Bereczkei et al. (2004, as cited in Bressan & Zucchi, 2009) found that people tend to marry people who look like them, suggesting that the benefits of fitness and carrying on similar genes overcome the costs of possible inbreeding. The results from this study showed that participants preferred the self-morph more often (more than 50% of the time) than the twin-morph in response to both altruistic questions. The data received also suggests that visual information about the self is what people first use to confirm their kin before looking to other information. The data also suggests that people may prefer to help a stranger that resembles them more than a stranger that resembles a close family member, and therefore may support the current study's hypotheses about mothers empathizing more with their children who they see themselves in (racially similar and racially mixed).

Race and empathy

Empathy has been a largely studied topic, but research focusing on racial and cultural differences is limited. Of the existing literature on Asians and Asian Americans, there is support for cultural differences in empathy. Previous studies suggest that in comparison with Western cultures, East Asian cultures experience greater personal distress but less empathic concern (Trommsdorff, 1995, as cited in Cassels et al., 2010). Some explanations for this include that Asian cultures tend to regulate emotion, so since emotions are not as visibly expressed as they are in Western cultures, it is more difficult for Asians to empathize with others. Friedmeier and Trommsdorff (1995, as cited in Cassels et al., 2010) conducted a study with mothers who

observed their toddlers who experienced the distress of a friend and recorded their responses across two cultures, German and Japanese. The researchers found that mothers both responded to the distress of their children, but German mothers showed more positive emotion regulation compared to Japanese mothers who showed more negative emotion regulation (i.e. regulation by avoiding the source of distress). Using the Interpersonal Reactivity Index (IRI), a 28-item index that assesses cognitive and affective empathy, questions were rated on a 5-point Likert scale with answers ranging from 1 (does not describe me well) to 5 (describes me very well). The IRI provided scores for four different components of empathy: personal distress, empathic concern, fantasy, and perspective taking, of which the first two were examined in this study. There was a main effect of culture for the Personal Distress subscale, and there was a significant difference between Western and East Asian group scores for Empathic Concern, such that the Western group showed higher scores, and therefore more empathic concern than their East Asian counterparts. These results suggest that there is a difference between Western and Asian cultures and their values and experiences with personal distress and empathic concern.

In addition, emotional self-control and regulation has been identified as being influenced by culture. Asian Americans with high adherence to emotional self-control may feel less comfortable with discussing emotional, personal issues in comparison with their counterparts (Wang & Kim, 2010). Therefore, if Asian Americans do not express emotions or control their emotions more than others, they may find it more difficult to empathize with others because they do not understand why they are expressing emotion, especially in a public setting, in the first place. Furthermore, there is value placed in Asian cultures on harmony, so if a child were to behave in a disruptive way, a mother may not understand why the child is behaving in a certain way and may just interpret the child's behavior as acting out (Wang & Kim, 2010).

Furthermore, Harman (2013) conducted a study on White mothers of mixed children whose father was not involved in the family dynamic. The researchers interviewed thirty mothers of mixed-parentage children in Britain about their social networks. They found that because the mothers were involved in interracial relationships, this negatively impacted many of their social relationships. Mothers also gained support networks and made friendships with people from ethnic minority backgrounds and other interracial families. Overall, the findings suggest that race and ethnicity play a significant role in shaping mothers' social networks and their identities. This may suggest that it is more difficult for mothers to understand their mixed children if they are not familiar with the father's culture, and in particular, mothers may find it more difficult to understand their children if they identify with or look more like their father than their mother. This need to have a diverse network to benefit the development of the mother and child may result in problems for the mother if she does not have access to such resources.

Gender and empathy

Previous research has shown that mothers cognitively empathize with their daughters significantly more than they do with their sons. There are two main reasons for this difference. First, it is believed that females are more empathetic than males. Second, it is likely that the daughter will have more similar experiences with the mother than the son will have. Kochanska (1997, as cited in Yu et al., 2012) found that mothers might play more critical roles in the development of their emotional relationship with their daughters than with their sons.

Lennon and Eisenberg (1987, as cited in Ang & Goh, 2010) stated that when comparing the relationship between empathy and gender, previous research has generally found that females have significantly greater levels of empathy than males. Klein & Hodges (2001, as cited in Yu et

al., 2012), found that empathy is more enhanced in females than in males. Moreover, Eisenberg and McNally (1993) conducted a study with 32 mothers and their children (16 boys and 16 girls). Mothers were asked questions about their childrearing practices when their children were 7 to 8 years of age (Time 1) and were interviewed again when their children were 9 to 10 years of age (Time 2) up until ages 15 to 16 (Time 5). The measures for the mothers' and the children's sympathy, perspective taking, and personal distress were recorded at Time 5. Of the measures administered, mothers responded to the 7-item Perspective Taking, Empathic Concern, and Personal Distress scales of Davis's Interpersonal Reactivity Scale. Results showed that maternal perspective taking was significantly related to girls' empathy, but not boys'.

Additionally, Reniers et al. (2011) administered the QCAE (Questionnaire of Cognitive and Affective Empathy), a 65-item scale measuring cognitive (29 items) and affective empathy (36 items). Participants rated these items on a 4-point Likert scale with the options "strongly agree," "slightly agree," "slightly disagree," and "strongly disagree." Results from the study showed that of the 925 participants who completed all questions of the QCAE, females scored significantly higher than males for both cognitive and affective empathy. These findings have been consistent with previous literature. Moreover, Van Lissa et al. (2014) recruited 474 Dutch adolescents and their mothers to be participants in a longitudinal study on the developmental interplay between adolescents' empathic concern (EC) and perspective-taking (PT), as well as how the mothers' empathy could predict the adolescents' empathy over time and whether adolescent gender could moderate that "transmission" from mother to adolescent. Results found that adolescent gender does moderate perspective-taking transmission from mother to child, and it was significant for girls but not for boys. In the study on the Basic Empathy Scale in Adults (BES-A), Carré et al. (2013) found that there was a significantly higher score for women than

there was for men on the emotional contagion factor and a significantly lower score for women than for men on the emotional disconnection factor. The cognitive empathy factor was also higher for women than it was for men. Therefore, there is reason to believe that gender influences empathy, and females are generally more empathetic than males.

Neighborhood diversity

It is important for White mothers to have social networks that are diverse in order to understand and create more connections with their children. However, if a mother lives in a homogenous neighborhood, she will not have the same access to social networks that are necessary for her to understand how her child may be feeling if she cannot relate to her (if the child is perceived as racially dissimilar). There have been previous studies that have focused on the role of majority and minority group membership. Vezzali et al. (2010) found that increasing contact between the majority and minority groups helped improve relationships between both groups. Other studies have also found that by increasing contact between the minority and majority groups was useful, especially for the majority group, which was less likely to come into contact with the minority group on a daily basis. Contact between groups reduced feelings of anxiety towards one another and increased intergroup empathy (Pettigrew & Tropp, 2006, as cited in Swart et al., 2011), which supports Allport's (1954, as cited in Swart et al., 2011) contact hypothesis. Allport's hypothesis predicted that positive intergroup contact would be able to reduce intergroup prejudice and improve intergroup relations. Therefore, in order to increase the likelihood of a mother being able to empathize with her biracial child, especially if she looks racially dissimilar from her, it would be beneficial for her to live in a more diverse neighborhood where she would have contact with people from other racial groups.

Overall, the current research focuses on biological same-race families, adopted same-race and transracial families. It focuses on how parenting methods influence children's development, and it describes the influence that mothers have on children. Thus, there is a gap in the literature that the current study is attempting to fill on mothers and their cognitive empathy towards biracial children. Rather than concentrating on how the child's development changes, the current study will examine the effects that perception, race, gender, and environment have on the extent to which mothers are able to cognitively empathize with their children. The proposed study will add to the field because it will examine a group of people, largely untapped, and it will focus on what influences cognitive empathy between a biological mother and her child when that child is perceived to be racially similar to her, racially mixed (resembles the mother and father roughly evenly), and racially dissimilar to her. It will examine the importance of phenotype on how a mother empathizes with her child and search to determine whether appearance strongly influences a mother's cognitive empathy towards her child. This study will be correlational. The participants in this study will be mothers whose children are between the ages of 7 and 10.

According to Erikson's stages of development, during adolescence (ages 12 to 18), there is a transition from childhood to adulthood. Children become more independent and begin to see how they fit into society. For the purposes of this study, the researcher will study mothers whose children have not reached this autonomous stage of development yet. Children will be between the ages of 7 and 10, which is a consistent age group studied in previous literature on children's empathy (Reid et al., 2013). The researcher understands that results from this study may vary due to the chosen children's age group, and more research needs to be conducted to examine children at different stages of development.

In addition, previous literature has mainly described two types of empathy: cognitive and affective. With the added component of race, a cognitive variable, the researcher predicts that mother's cognitive empathy will be of particular interest to analyze in depth. The researcher predicts that a mother's ability to understand her child or to take her child's perspective is of particular importance, and given the limited resources on biracial people and empathy, it will be a starting point to discuss mother-child relationships and empathy in more detail.

The current study's hypotheses are:

- 1) A mother's cognitive empathy towards her biracial child will be significantly different based on perceived phenotypic racialization of the child relative to the mother (racially similar, racially dissimilar, racially mixed).
 - a. A mother's cognitive empathy towards her biracial child who is perceived as racially similar to her will be significantly different from a mother's cognitive empathy towards her biracial child who is perceived as racially dissimilar from her.
 - b. A mother's cognitive empathy towards her biracial child who is perceived as racially similar to her will not be significantly different from a mother's cognitive empathy towards her biracial child who looks racially mixed (has some resemblances to the mother).
 - c. A mother's cognitive empathy towards her biracial child who is perceived as racially dissimilar from her will be significantly different from a mother's cognitive empathy towards her biracial child who is perceived as racially mixed.

- 2) A mother's cognitive empathy towards her biracial child will be significantly different based on the race of the mother (Asian, Black, Hispanic, or White).
 - a. Asian mothers will have significantly less cognitive empathy towards their biracial children overall in comparison with their Black and Hispanic counterparts.
 - b. White mothers will have significantly less cognitive empathy towards their biracial children overall in comparison with their Asian, Black, and Hispanic counterparts.
 - c. There will be no significant difference in Black and Hispanic mothers' cognitive empathy towards their children.

- 3) A mother's cognitive empathy towards her biracial child will be significantly different based on gender of her child.
 - a. Mothers will have significantly greater cognitive empathy with their daughters in comparison with their sons, regardless of their perceived racial categorization.
 - b. Mothers whose daughters look racially similar and racially mixed will have significantly greater cognitive empathy towards their children than mothers whose daughters look racially dissimilar.
 - c. There will be no significant difference for cognitive empathy between mothers whose daughters look racially similar and racially mixed.
 - d. Mothers whose sons look racially similar will have significantly greater cognitive empathy towards their children than mothers whose sons look racially dissimilar or racially mixed.

- 4) There will be a significant difference in mother's cognitive empathy for her child based on the diversity of the neighborhood they currently live in and the perceived racial categorization of her child.
 - a. Mothers who live in homogenous neighborhoods will have significantly less cognitive empathy towards their children who look racially dissimilar in comparison with mothers who live in diverse neighborhoods who are not frequently in contact with people of diverse backgrounds.
 - b. Mothers who live in diverse neighborhoods and have frequent contact with people of diverse backgrounds will have significantly more cognitive empathy towards their children who look racially dissimilar in comparison with mothers who live in homogenous neighborhoods.
 - c. Mothers who live in diverse neighborhoods and have frequent contact with people of diverse backgrounds will have significantly more cognitive empathy towards their children who look racially dissimilar in comparison with mothers who live in diverse neighborhoods but do not have frequent contact with people of diverse backgrounds.
 - d. There will be no significant differences on mother's cognitive empathy towards children who look racially similar or racially mixed based on diversity of the neighborhood in which they live in.

Proposed Methods

Participants

Participants will be mothers who identify within four racial categories (Asian, Black, Hispanic, and White), whose first-born child is biracial, male or female, and between the ages of 7 and 10. The child may be perceived as phenotypically racially similar (looks like the mother), dissimilar (does not look racially similar to the mother or looks more racially similar to the father), or mixed (can see the resemblances in both mother and father) relative to his or her mother. Mothers will be recruited through elementary school newsletters sent out to parents. Teachers will also place informational flyers in students' homework folders to be brought home to show parents. Mothers will be compensated with \$10 to cover the cost of any travel expenses, as well as a \$10 gift card to a children's store near the lab. In order to achieve a power of .8 assuming a small effect size (since there is little research to draw from to assume anything larger), 480 participants will be needed. Having more participants would be okay, but with large numbers of participants, there is a point in which having more participants does not significantly change the results from the data.

Materials

Cognitive empathy. Mothers will only be assessed for their cognitive empathy for their children. Adapted from the PDI (Slade et al., 2003, as cited in Stern et al., 2015), mothers will be participate in a semi-structured interview and will be asked 10 emotion-related questions and 6 general questions regarding the mother's view of the child. Mothers' responses to the 10 emotion-related questions will be coded for cognitive empathy (see Appendix A). Using a modified version of PACES, a scoring system modeled after Slade's (2004, as cited in Stern et

al., 2015) adaption of the Reflective Functioning Scale, the extent to which a mother demonstrates empathy will be rated on an 11-point scale (see Appendix B). The scale will range from -1 (anti-empathic, hostile, rejecting) to 9 (exceptional, insightful) with 5 being basic empathy. This will rate a mother's insight into her child's internal thoughts and emotion. If a response is coded as having cognitive empathy, mothers will show understanding of relations between their children's situational, emotional, and behavioral experiences. If the mother's emotion does not match her child's, it will be scored lower (e.g. "I saw [child] was happy, and it just made me mad.") The 10 scores will be averaged together to give one score for the entire interview. The scores will give insight into parental empathy across different situations. The scale has been demonstrated to show high internal consistency ($\alpha=.91$) and good inter-rater reliability (Stern et al., 2015).

Neighborhood diversity. Mothers will complete a scale responding to questions about where the mother and child currently live. Using a self-designed Neighborhood Diversity Scale, participants will be asked questions regarding the diversity of the neighborhood that they currently live in (see Appendix C). This scale has been demonstrated to show high reliability ($\alpha=.xx$). Participants will respond to statements such as, "I interact with people of different cultures on a daily basis." on a 4-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree).

Demographics. To conclude the study, participants will answer demographic questions (see Appendix D).

Procedure

Participants will be asked to bring separate headshots of themselves and their first-born child. Research assistants who have been trained in research ethics and have shown high inter-rater reliability in identifying the phenotypic racial perceptions of biracial children relative to their mothers will look at the headshots of mothers and their children next to each other and categorize the children's perceived racial identity as phenotypically racially similar, phenotypically racially mixed, or phenotypically racially dissimilar (see Figure 1). The categorizations provided by the trained research assistants will not be shared with the mothers.

Participants will read and sign an informed consent form before beginning the study. Mothers will participate in the study individually with the study administered by the researcher and research assistants. Mothers will complete an adapted version of the PDI, coded with a modified version of PACES. Participants will also complete a scale measuring diversity of the neighborhood that the mother and child currently live in, and finally, they will be asked demographic questions. The researcher and research assistants will debrief the participants, and participants will be compensated.

Ethics

This study will examine how a biological mother's cognitive empathy towards her biracial child is influenced by her racial identity in relation to her child's perceived phenotypic racial identity. The benefits of the study outweigh the potential risks to participants because the findings from this study could give insight into the differences and importance of phenotype on mother-child relationships. It may also add to the field on mixed race people, which is currently very limited. In addition, it looks into the mother's perspective rather than the child's, which is

also largely understudied. The benefits to participating in this research include potentially adding to research in the field, however participants may not experience any direct benefit from participating in the study. The potential risks that may come from this study may include discomfort of the mothers due to the topic of interest. To minimize the risk and protect participant wellbeing, participants will read and sign informed consent before starting the study. They will also be debriefed. The researcher will debrief participants immediately following their interviews and describe to them the purpose of the study in further detail.

This study does involve deception because mothers will be asked to provide headshots of themselves and their children, and they will be told that the photos will be used to verify that the mother is eligible to participate in the study. They will not be told that trained coders will racially classify children relative to their mothers (racially similar, mixed, or dissimilar) using their photos. The proposed study will be below the level of minimal risk because the level of risk encountered in this study will not exceed the level of risk that can be encountered in daily life. Participants will be asked questions including, "Can you tell me about a time in the last week or two when [child's name] felt upset?" While some participants may find it difficult to answer questions about their children, their children's emotions, and their own emotions as mothers, the research cannot be conducted in any other way because mothers' cognitive empathy towards their biracial children is the topic of interest. Immediately following the study, participants will be debriefed on what the purpose of the study was, as well as why they brought in photos of themselves and their children.

Participation in the study will be voluntary. Participants will be recruited using flyers and other advertising tactics within elementary school settings, and participants will opt-in to participate. If a participant chooses to opt-out before or during the study, they will not be

penalized. They will still be compensated the same amount of money had they completed the study. The data collected will be confidential but not anonymous. It will not be anonymous because participants will come to the lab to complete the interview. However, the information will be confidential, and the participant will know this beforehand when they read and sign the informed consent form. The researcher will be the only one who will know who the participants are because she will be the one administering the interview. When analyzing, reporting, and disseminating results found in the study, the researcher will not disclose names of people or the location of where the study took place to ensure confidentiality of information. The research will be conducted in a lab as well to aid in the confidentiality of information so that mothers will not feel exposed in a more public setting.

To conclude, the benefits of conducting this study outweigh the risks. The risks of this study can be reduced, but the benefits of this study can expand and add to the literature on mother-child relationships, biracial people, and factors that influence cognitive empathy.

Proposed Results

A factorial ANOVA will be used to test the effects between (1) Perceived phenotypic racialization of a child relative to his or her mother (racially similar, racially dissimilar, racially mixed) and a mother's cognitive empathy towards her child, (2) Race of mother relative to perceived phenotypic racialization of her child and its effects on mother's cognitive empathy, and (3) Gender of child and perceived phenotypic racialization of child relative to his or her mother and their effects on mother's cognitive empathy. An ANCOVA will be used to test the effects of perceived phenotypic racialization of a child and diversity of the neighborhood that the mother and child live in on mother's cognitive empathy.

Testing for perceived phenotypic racialization of a child relative to his or her mother and a mother's cognitive empathy towards her child, it is predicted that there will be a main effect for perceived phenotypic racialization of child and mother's cognitive empathy. It is predicted that there will be simple effects such that, a mother's cognitive empathy towards her biracial child who looks racially similar to her will be significantly different from a mother's cognitive empathy towards her biracial child who looks racially dissimilar from her (Klevan, 2014). A mother's cognitive empathy towards her biracial child who looks racially similar to her will not be significantly different from a mother's cognitive empathy towards her biracial child who looks racially mixed, which is supported by Bressan and Zucchi (2009), who studied kin detection and how people prefer to help, and in this case empathize with, people that resemble them. A mother's cognitive empathy towards her biracial child who looks racially dissimilar from her will be significantly different from a mother's cognitive empathy towards her biracial child who looks racially mixed. Therefore, the significant simple effects would be between mother's cognitive empathy towards her children who are categorized as racially similar and dissimilar and who are categorized as racially dissimilar and mixed. (See Table 1.)

Table 1

Perceived phenotypic racialization of child on mother's cognitive empathy

<u>Cognitive Empathy</u>	<u>Racially Similar (S)</u>	<u>Racially Dissimilar (D)</u>	<u>Racially Mixed (M)</u>
S * D	.xx*	.xx*	--
S * M	.xx	--	.xx
D * M	--	.xx*	.xx*

Note: *p < .05

Additionally, when testing for the effect that race of mother relative to perceived phenotypic racialization of her child has on a mother's cognitive empathy, it is predicted that there will be a main effect for race of the mother. Asian mothers will have significantly less cognitive empathy towards their biracial children overall in comparison with their Black and Hispanic counterparts (Friedmeier & Trommsdorff, 1995, as cited in Cassels et al., 2010; Wang & Kim, 2010). White mothers will have significantly less cognitive empathy towards their biracial children overall in comparison with their Asian, Black, and Hispanic counterparts (Harman, 2013). There will be no overall significant difference between cognitive empathy for Black and Hispanic mothers regardless of racial categorization of their children. (See Table 2.)

Table 2

Race of mother on mother's cognitive empathy

<u>Cognitive Empathy</u>	<u>Asian (A)</u>	<u>Black (B)</u>	<u>Hispanic (H)</u>	<u>White (W)</u>
A * B * H	-.xx*	.xx	.xx	
A * B * H * W	.xx	.xx	.xx	-.xx*
B * H	--	.xx	.xx	--

Note: *p < .05

Furthermore, using the factorial ANOVA, it is predicted that there will be a main effect for gender, such that the gender of a child will significantly affect the cognitive empathy that the mother has for her child. It is predicted that there will be simple effects, such that mothers will have significantly greater cognitive empathy with their daughters in comparison to their sons (Klein & Hodges, 2001, as cited in Yu et al., 2012; Kochanska, 199, as cited in Yu et al., 2012; Lennon & Eisenberg, 1987, as cited in Ang & Goh, 2010; Eisenberg & McNally, 1993; Reniers

et al., 2011; Van Lissa et al., 2014; Carré et al., 2013). Within daughters, it is predicted that there will be an interaction so mothers whose daughters look racially similar and racially mixed will have significantly greater cognitive empathy towards their children than mothers whose daughters look racially dissimilar (Bressan & Zucchi, 2009). There will be no significant difference for cognitive empathy between mothers whose daughters look racially similar and racially mixed. It is also predicted that there will be an interaction for boys so that mothers whose sons look racially similar will have significantly greater cognitive empathy towards their children than mothers whose sons look racially dissimilar or racially mixed. There will be no significant effect for cognitive empathy of mothers whose sons look racially dissimilar or racially mixed. (See Tables 3 & 4).

Table 3

Gender of child (daughter) on mother's cognitive empathy

<u>Daughter</u>	<u>Racially Similar (S)</u>	<u>Racially Dissimilar (D)</u>	<u>Racially Mixed (M)</u>
S * D * M	.xx*	.xx	.xx*
S * M	.xx	--	.xx

Note: *p < .05

Table 4

Gender of child (son) on mother's cognitive empathy

<u>Son</u>	<u>Racially Similar (S)</u>	<u>Racially Dissimilar (D)</u>	<u>Racially Mixed (M)</u>
S * D * M	.xx*	.xx	.xx
D * M	--	.xx	.xx

Note: *p < .05

An ANCOVA will be used to test the effects between diversity of the neighborhood that mothers and their children live in, perceived racial categorization of child relative to mother, and mother's cognitive empathy. It is predicted that there will be a main effect for diversity of neighborhood. There will be a simple effect such that mothers who live in homogenous neighborhoods will have significantly less cognitive empathy towards their children who are perceived as racially dissimilar in comparison with mothers who live in diverse neighborhoods and who are not frequently in contact with people of diverse backgrounds. Mothers who live in diverse neighborhoods and have frequent contact with people of diverse backgrounds will have significantly more cognitive empathy towards their children who are perceived as racially dissimilar in comparison with mothers who live in homogenous neighborhoods (Vezzali et al., 2010). Mothers who have frequent contact with people of diverse backgrounds will have significantly more cognitive empathy towards their children who are perceived as racially dissimilar in comparison with mothers who live in diverse neighborhoods but do not have frequent contact with people of diverse backgrounds (Pettigrew & Tropp, 2006, as cited in Swart et al., 2011). There will be no significant difference on mothers' cognitive empathy towards children who are perceived as racially similar or racially mixed based on diversity of the neighborhood in which they live in (Bressan & Zucchi, 2009). (See Table 5.)

Table 5

Diversity of neighborhood and perceived phenotypic racialization on mother's cognitive empathy

	<u>Homogenous</u>	<u>Diverse w/o contact</u>	<u>Diverse w/contact</u>
<u>Racially Dissimilar</u>	-.xx*	.xx	--
	--	.xx	.xx*
	.xx	--	.xx*
<u>Racially Similar</u>	.xx	.xx	.xx
<u>Racially Mixed</u>	.xx	.xx	.xx

Proposed Discussion

The results from the current study add to the existing literature because it is still a fairly new topic to be addressed. Limited research has been conducted on mothers' cognitive empathy, and specifically mothers' cognitive empathy towards their biracial children. The current research focuses on mothers' empathy rather than children's empathy, which is also a population that is underutilized. In addition, the field of biracial studies is extremely lacking, so the current study helps to give more awareness into this group of people.

Limitations

Due to the scarcity of information already provided on this topic of mothers of biracial children, more research needs to be done and repeated before coming to a more concise conclusion on the merits of this research. The nature of the study is also subject to bias, so while there was attempt to control for this by having mothers talk about their first-born child, having mothers narrate experiences instead of filling out questionnaires, and having the mother come

into the lab, due to what the study is examining, there is still a chance that the mothers will have bias (e.g. social desirability). This could influence how they will answer certain questions. Also, not only is there a dearth of research on mothers with biracial children, the target population of mothers whose first-born child is biracial and between the ages of 7 and 10 is extremely limiting, which could result in a much smaller sample size than what may be ideal.

Future Directions

The results from the current study show that perceived phenotypic racialization, race of mother, gender of child, and diversity of the neighborhood that the mother and child live in will influence mothers' cognitive empathy towards her child. This initial information will be necessary to understand whether mothers' cognitive empathy can be influenced by such factors. With the results from this study, further research can be conducted to understand the implications of differences in cognitive empathy and how that affects mother-child attachment, and thus how that affects the mother and child's development. Additionally, Miller and Eisenberg (1988, as cited in Eisenberg & McNally, 1993) found that lower levels of maternal empathy were associated with child abuse.

Furthermore, empathy is highly correlated with attachment, and insecure attachment is associated with low empathy (Joireman et al., 2001, as cited in Stern et al., 2015). In addition, Fraiberg's writings known as, "ghosts in the nursery" addresses issues that mothers may face within their relationship with their child due to unresolved conflicts in their childhoods. Mothers will read their children's cues incorrectly and interpret their behavior in altered ways (Fraiberg, et al., 1975, as cited in Oppenheim et al., 2001). Previous research has found that in these clinical cases, intervention can lead to change in the mothers' perceptions of their children and

therefore increasing their empathy towards their children (Fraiberg et al., 1975, Brazelton & Cramer, 1990; Emde, 1990; Lieberman et al., 1991, Stern, 1995, as cited in Oppenheim et al., 2001). Therefore, future studies could examine how the altered empathic perceptions that mothers have towards their children may be influenced by factors such as race of the mother or gender of the child, and how intervention programs may be beneficial to alter mothers' perceptions and increase their cognitive empathy.

Furthermore, the current study's target population is mothers whose first-born biracial child is between the ages of 7 and 10. Future studies could examine mothers whose children are within different age ranges and compare those differences. Additionally, future research could include a longitudinal study, so that the researcher would examine the relationships between mothers and children every five years, as the children develop and become more aware of their own identities, dependent to and independent of their mothers.

Further research could also examine siblings and how birth order, having more than one biracial child, differences in perceived phenotypic racialization, and gender of child influence mother's cognitive empathy. Future research could also study the differences between single and two-parent families in more detail, and the different reasons and consequences of having mothers raise biracial children on their own (Harman, 2013). These reasons could include that the father of the child left the family, passed away, or is divorced from the mother.

Moreover, adapting this study and translating it to be administered without language barriers would be beneficial to reach a wider audience, especially since the study as it is, is limiting in regards to whom is eligible to participate. Lastly, future studies could look at the implications of outside peoples' assumptions of mothers and their children based on how they are racially perceived, and what this says about society at large.

Overall, the present study is critical in its undertaking of a subject that has very minimally been tapped into. This study is important in understanding what influences a mother's cognitive empathy, and while there are limitations, there is much to learn from the current study and from future research.

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Appendix A

Adapted Parent Development Interview (PDI)

1. Have you ever been angry as a mother? *
2. Have you ever felt guilty as a mother? *
3. Tell me about one of your child's hobbies.
4. Can you describe a time when you were sad as a mother? *
5. Can you describe a time when you were afraid as a mother? *
6. Can you describe a time when you were happy as a mother? *
7. Describe the relationship that your child has with your side of the family.
8. Describe the relationship that your child has with your partner's side of the family.
9. Can you tell me about a time in the last week or two when [child's name] felt guilty? *
10. Can you tell me about a time in the last week or two when [child's name] felt happy? *
11. Can you tell me about a time in the last week or two when [child's name] felt upset? *
12. Can you describe a time that you played with your child?
13. Can you tell me about a time in the last week or two when [child's name] felt afraid? *
14. Can you tell me about a time in the last week or two when [child's name] felt rejected? *
15. Describe a time when your child surprised you.
16. What are five words you would use to describe your child?

(*) Denotes emotion-related questions

Appendix B

Parent Affective and Cognitive Empathy Scale (PACES) Coding Form

Rating Empathic Functioning (EF) for the PDI-R!

Types of EF	Negative or Limited EF	Moderate to High EF
<p>A. Affective Empathy</p> <ul style="list-style-type: none"> - Linking the child's mental state to the parent's mental state - Attempt to take the emotional perspective of the child - Parent self-regulates response to child's mental state 	<p>-1 Negative EF</p> <ul style="list-style-type: none"> - <i>Rejecting</i>: anti-empathic, defensive, actively evasive, hostile - <i>Bizarre</i>: irrational, distorted, inappropriate - <i>Manipulative</i>: uses knowledge of child's mental states for psychological gain 	<p>5 Basic EF One or more instances of explicit EF as defined in the "Types" section.</p> <p>6 Ordinary EF with elaboration One or more instances of EF with greater nuance/complexity than a "5" but without full characteristics of a "7."</p>
<p>B. Cognitive Empathy</p> <ul style="list-style-type: none"> - Attempt to take the cognitive perspective of the child - Supported attributions of mental states to the child - Consideration of plausible reasons for the child's mental states - Linking the child's mental state to the child's behavior - Linking one mental state to another mental state within the child - Linking the parent's cognitive empathy to his or her self-regulation - Recognition of the developmental aspects of mental states 	<p>0 Disorganized disavowal Contradictory, disregulated, incoherent, vague, tenuous disavowal.</p> <p>1 Absent but not repudiated EF</p> <ul style="list-style-type: none"> - <i>Successful disavowal</i>: passively evasive, non-hostile, pleads ignorance. - <i>Distorting/self-serving</i>: self-justifying, self-aggrandizing, selective recall. - <i>Enmeshed</i>: self-other confusion, inappropriate pronoun use, unrealistic empathic abilities, projection. <p>2 Inexplicit EF Mental states implies but not explicitly stated, usually via behavioral description</p>	<p>7 Marked EF</p> <ul style="list-style-type: none"> - <i>Sophisticated</i>: explicit EF, detailed, complex, multi-layered, reasonably regulated. - <i>Surprising/original</i>: casts original perspective, non-cliché, unique. - <i>Well-regulated</i>: expresses appropriate mental states while discussing a difficult subject, or indicates that EF serves a regulatory function in the relationship. <p>8 Marked EF with elaboration One or more instances of EF with a greater degree of nuance and complexity than a "7" but without the full characteristics of a "9."</p>
<p>C. Sensitive Responding</p> <ul style="list-style-type: none"> - Linking the child's mental state to the parent's sensitive response - Linking the parent's affective empathy to the parent's sensitive response - Linking the parent's cognitive empathy to the parent's sensitive response - Communication of the parent's empathy to the child - Parent's sensitive response serves to regulate the child 	<p>3 Questionable/low EF</p> <ul style="list-style-type: none"> - <i>Simplistic</i>: naïve, cliché, one-dimensional, non-specific - <i>Disregulated</i>: level "5" EF, but parent becomes anxious/overwhelmed - <i>Hyperactive</i>: overly analytical, intellectual, psychological, unsupported. <p>4 Rudimentary EF Level "5" EF is implied but not explicit.</p>	<p>9 Exceptional EF Explicit EF meeting one or more criteria for a "7" to a high degree, sophisticated, sensitive, personal, genuine, evidence of a cohesive, nuanced understanding of the relationship.</p>

Adapted for the current study, ratings will only be made for cognitive empathy.

Appendix B (*continued*)

Modified Version of Parent Affective and Cognitive Empathy Scale (PACES) Coding Form

Subject: _____

Rater: _____

Question	Empathic elements	Score
Angry as a mother		
Guilty as a mother		
Sad as a mother		
Afraid as a mother		
Happy as a mother		
Child guilty		
Child happy		
Child upset		
Child afraid		
Child rejected		
Overall		

Adapted for the current study, ratings will only be made for cognitive empathy.

Appendix D

Demographics

Please select your race.

- Asian
- Black
- Hispanic
- White

Please select your child's gender.

- Male
- Female

Figure 1

Perceived phenotypic racial categorization of child relative to mother: racially similar, racially mixed, or racially dissimilar.

