

The goal of the CNN Study was to determine the status of children's racial beliefs, attitudes and preferences as well as skin tones biases at two different developmental periods. Specifically, kindergarten children and middle childhood youngsters attending grade schools in either the Northeast or the Southeast regions of the United States of America were tested by same race female testers. However, the post-test interviews conducted with children and/or their parents were not matched either by race or gender of the interviewer.

## Methods

### *Pilot Study Sample*

The CNN pilot study sample is comprised of a total of 133 early (n=65) and middle (n=68) childhood African American (n=75) and White (n=58) children selected from 8 schools in the Northeastern (n=64) and Southeastern (n=69) regions of the United States. See Table 1 for characteristics of the pilot demonstration study.

The 8 schools we sought were split evenly between the exurbs around New York City (within a 2 hour radius) and the exurbs around Atlanta (within a 2 hour radius). Our goal for the 4 schools in each region were for them all to be public schools, with at least kindergarten through 4<sup>th</sup> grade, and to have them fulfill the following 4 parameters: 1 school with a 70% or above White student population and a 30% or below participation rate in the free and reduced school lunch program, 1 school with a 70% or above White student population and a 70% or above participation rate in the free and reduced school lunch program, 1 school with a 70% or above African-American student population and a 30% or below participation rate in the free and reduced school lunch program and 1 school with a 70% or above African-American student

population and a 70% or above participation rate in the free and reduced school lunch program. Ideally each school would also have a significant percentage of the “minority” student, i.e. African-American students in the majority White schools and White in the majority African-American schools, to provide a large enough sample size of children of both races in each school. Henceforth, the 4 school types will be referred to as the following: affluent majority White school, impoverished majority White school, affluent majority African-American school, impoverished majority African-American school.

School data was requested from the state Departments of Education of New York, New Jersey, Connecticut and Georgia and the most recent information available was provided by each state. For both regions, there was a large number of affluent majority White schools and impoverished majority African-American schools. There was a significantly less number of impoverished majority White schools in the New York exurb region and a somewhat less number of impoverished majority White schools in the Atlanta exurb region. In the New York region, there were very few affluent majority African-American schools and in the Atlanta region, there were no schools that fit our parameters for an affluent majority African-American school.

Table 1.

Characteristics of Pilot Study Sample

<b><u>Grade</u></b> <b><u>Level</u></b>	<b><i>Boys</i></b> <b><i>(n)</i></b>	<b><i>Girls</i></b> <b><i>(n)</i></b>	<b><i>Black</i></b> <b><i>(n)</i></b>	<b><i>White</i></b> <b><i>(n)</i></b>	<b><i>Mean</i></b> <b><i>Age</i></b>
<b>Early</b> <b>Childhood</b> <b>(n=65)</b>	<b>34</b>	<b>31</b>	<b>36</b>	<b>29</b>	<b>5.21</b> <b>years</b>
<b>Middle</b> <b>Childhood</b> <b>(n=68)</b>	<b>38</b>	<b>30</b>	<b>39</b>	<b>29</b>	<b>9.54</b> <b>years</b>
<b>Total</b>	<b>72</b>	<b>61</b>	<b>75</b>	<b>58</b>	

*The Measurement of Skin Color Preferences*

*Middle childhood.* Children's *perceptions* of, and *attitudes* toward, skin color were assessed using an 11-item revised version of the Skin Color Opinions and Perceptions Evaluation (SCOPE), a questionnaire comprised of questions related to children's perceptions of their own skin color, the skin color they would most like and least like to have and questions assessing their perceptions of the skin colors that are most valued by "referent others", such as peers, teachers and other adults (see Fegley, Spencer, Goss, Harpalani, & Charles, 2007; Spencer, 2008). Children indicated their skin color choices using the Visual Inventory for Skin Tone Assessment (VISTA) - a commercially produced color bar comprised of ten colors arrayed across the bar from lightest to darkest ((see Fegley, Spencer, Goss, Harpalani, & Charles,

2007; Spencer, 2008). Children's skin tone selections were coded on a scale of 1-10, with 1 representing the darkest skin tone and 10 representing the lightest skin tone. Using children's scores on the corresponding items, two subscales were created - *Color Preference* and *Color Rejection*. The *Color Preference* subscale was created by taking the mean of children's skin tone selections for 4 items - the skin color that looks good on a boy/girl, the skin color that most boys/girls want, the skin color that most adults think looks good on a boy/girl and the color that most teachers think looks good on a boy/girl. Eighty-four percent (57/68) of the children answered at least 3 out of the 4 questions. Although the range for each item in the scale is 1-10, the mean scores for the scale ranged from 2.67 to 9.50, with a mean of 5.83 and a standard deviation of 1.64. Higher scores on the scale indicate a preference for lighter skin tones and lower scores on the scale indicate a preference for darker skins tones. The *Color Rejection* subscale was created by taking the mean of children's skin tone selections for 4 items - the skin color that looks bad on a boy/girl, the skin color that most boys/girls do not want, the skin color that most adults think looks bad on a boy/girl and the color that most teachers think looks bad on a boy/girl. Seventy-nine percent (54/68) of the children answered at least 3 out of the 4 questions. Although the range for each item in the scale is 1-10, the mean scores for the scale ranged from 2.67 to 9.50, with a mean of 5.83 and a standard deviation of 1.64. Higher scores on the scale indicate a preference for lighter skin tones and lower scores on the scale indicate a preference for darker skins tones.

*Early childhood.* Young children's *perceptions* of, and *attitudes* toward, skin color were assessed using an 9-item revised version of the Skin Color Opinions and Perceptions Evaluation (SCOPE), a pilot questionnaire comprised of questions related to children's perceptions of their own skin color, the skin color they would most like and least like to have and questions assessing

their perceptions of the skin colors that are most valued by “referent others”, such as peers, and other adults (see Fegley, Spencer, Goss, Harpalani, & Charles, 2007 & Spencer, 2008 for a description of the original scale). Early childhood participants indicated their skin color choices using the Early Childhood Version of the VISTA (VISTA-ECV). The VISTA-ECV was created as a pilot measure to assess young children's attitudes and beliefs about skin color. The pilot version is comprised of drawings of five identical young cartoon children that differ only in their skin tone. The cartoon characters are arrayed from the lightest skin tone to the darkest skin tone. The boys' version consists of five identical cartoon characters dressed in blue shirts and blue pants and the girls' version consists of five identical cartoon characters dressed in blue dresses and wearing blue bows in their hair.

Young children's skin tone selections were coded on a scale of 1-5, with 1 representing the darkest skin tone and 5 representing the lightest skin tone. Using children's scores on the corresponding items, two subscales were created - *Color Preference* and *Color Rejection*. The *Color Preference* subscale was created by taking the mean of children's skin tone selections for 3 items - the child who has the skin color most children like, the child who has the skin color most boys/girls want and the child who has the skin color most adults like. All of the preK/kindergarten children (n=65) answered at least 2 out of the 3 questions. The mean scores for the scale ranged from 1 to 5 with a mean of 2.67 and a standard deviation of 1.01. Higher scores on the scale indicate a preference for lighter skin tones and lower scores on the scale indicate a preference for darker skins tones.

The *Color Rejection* subscale was created by taking the mean of children's skin tone selections for 3 items - the child who has the skin color most children don't like, the child who has the skin color most boys/girls don't want and the child who has the skin color most adults

don't like. All of the preK/kindergarten children (n=65) answered at least 2 out of the 3 questions. Although the range for each item in the scale is 1-5, the mean scores for the scale ranged from 1.33 to 4.67 with a mean of 3.25 and a standard deviation of .86.

*The Measurement of Children's Attitudes, Beliefs and Social Preferences*

The Early Childhood version of the VISTA was also used to assess children's attitudes, beliefs and social preferences about children with different skin tones. Children were asked to use the VISTA-ECV to indicate the cartoon child (identical except for their skin tone) that was the child with different positive and negative traits (e.g., smart, dumb, mean, nice). They were also asked to select the child that they would like as a classmate, friend and playmate. After each selection, children were asked why they selected the child that they selected. Children's selections were coded on a scale of 1 to 5, with 1 representing the cartoon child with the darkest skin tone and 5 representing the cartoon child with the lightest skin tone. Using children's scores on the corresponding items, 3 subscale scores were created - *Positive Attitudes and Beliefs*, *Negative Attitudes and Beliefs* and *Social Preferences*. The *Positive Attitudes and Beliefs* subscale scores were created by taking the mean of children's color selections for the smart, nice, good and good looking child. Eighty-six percent (n=115) of the children answered at least 3 out of the 4 questions. Although the range for each item in the scale is 1-5, the mean scores for the scale ranged from 1 to 4.75, with a mean of 3.33 and a standard deviation of .77. Higher scores on the scale indicate a preference for lighter skin tones and lower scores on the scale indicate a preference for darker skins tones. The *Negative Attitudes and Beliefs* subscale scores were created by taking the mean of children's color selections for the dumb, mean, bad and ugly child. Eighty percent (n=106) of the children answered at least 3 out of the 4 questions. Although the range for each item in the scale is 1-5, the mean scores for the scale ranged from 1.25 to 4.5,

with a mean of 2.67 and a standard deviation of .77. Higher scores on the scale indicate a preference for lighter skin tones and lower scores on the scale indicate a preference for darker skins tones. The *Social Preferences* subscale scores were created by taking the mean of children's color selections for the child they would like as a classmate, friend and playmate. Eighty-nine percent (n=118) of the children answered at least 2 out of the 3 questions. The mean scale scores ranged from 1 to 5, with a mean of 3.25 and a standard deviation of .87. Higher scores on the scale indicate a preference for lighter skin tones and lower scores on the scale indicate a preference for darker skins tones.

### *Statistical Analyses*

Zero-order correlations were conducted to examine the association among the 5 subscale scores (i.e., positive attitudes and beliefs, negative attitudes and beliefs, social preferences, color preference and color rejection) and the association among the 5 subscale scores and the following three skin color preference items: 1) self-identified skin tone, 2) preferred skin tone and 3) least preferred skin tone. T-tests were conducted to examine group differences in children's scores on the positive and negative attitudes and beliefs, social preferences, color preferences and color rejection subscales as a function of grade level, sex and race for the total sample and racial differences within grade level. Chi-square analyses were conducted to examine racial group differences in children's selection of skin tones for the individual items on the Clark Replication survey and the Group preference survey.

## Results

### *Zero-Order Correlations*

*Early childhood.* Among children in pre-kindergarten and kindergarten, there was a statistically significant negative correlation between children's scores for positive attitudes and

beliefs and their scores for negative attitudes and beliefs ( $r = -.76, p < .0001$ ), and color rejection ( $r = -.45, p < .001$ ), indicating that as one score increased the other score decreased. So, for example, children who selected lighter skin tones for the children with positive traits (i.e., smart, nice, good, good looking) selected darker skin tones for children with negative traits (dumb, mean, bad ugly) and vice versa; children who selected darker skin tones for children with positive traits selected lighter skin tones for children with negative traits. . Similarly, among early childhood students, there were also statistically significant negative correlations for children's scores on the color rejection subscale and their scores on the social preferences ( $r = -.37, p < .01$ ) and color preference ( $r = -.61, p < .0001$ ) subscales, indicating that as one score decreased the other decreased. So, for example, children who preferred lighter skin tones rejected darker skin tones and children who preferred darker skin tones rejected lighter skin tones. Conversely, there were statistically significant positive correlations among children's scores on positive attitudes and beliefs and their scores on the social preferences ( $r = .60, p < .0001$ ) and color preference subscales ( $r = .54, p < .0001$ ), as well as their scores on the social preferences and color preference subscales ( $r = .48, p < .0001$ ). Children tended to select similar skin tones for all three subscales.

The correlations among early childhood children's scores on the 5 subscales (i.e., positive attitudes and beliefs, negative attitudes and beliefs, social preferences, color preference and color rejection), and their selections for self-selected skin tone, preferred skin tone and least preferred skin tone are presented in Table 2. Not surprisingly, children's self-selected skin tone and their preferred skin tone was positively correlated with their scores on the positive attitudes and beliefs, social preferences and color preference subscales (i.e., children's skin tone selections for these variables tended to be similar). Conversely, their selections for self-selected skin tone, but not preferred skin tone, was negatively correlated with their scores on negative attitudes and beliefs



and color rejection ( i.e., lighter skin tones on one variable was related to darker skin tones on the other). Similarly, children's skin tone selection for the least preferred skin tone was negatively correlated with their scores on positive attitudes and beliefs, social preferences and color preference indicating that as skin tone selections got lighter on one they got darker on the other, and positively correlated with their scores on the color rejection subscale indicating that early childhood students tended to select similar skin tones for each.

Table 2.

Correlations among Subscales and School Demographics among Early Childhood Children<sup>1</sup>

	<i>Positive Attitudes</i>	<i>Negative Attitudes</i>	<i>Social Preferences</i>	<i>Color Preference</i>	<i>Color Rejection</i>
Self-Selected Skin Tone	.52****	-.48****	.57****	.35**	-.36**
Preferred Skin Tone	.23 p = .07	ns	.36**	.23 p = .06	ns
<i>Non- Preferred Skin tone</i>	-.58****	.51****	-.52****	-.40**	-.46***

*Middle childhood.* Among middle childhood students, there was a statistically significant negative correlation between children's scores for positive attitudes and beliefs and their scores for negative attitudes and beliefs ( $r = -.56$ ,  $p < .0001$ ), indicating that as one score increased the other score decreased. So, for example, children who selected lighter skin tones for the children with positive traits (i.e., smart, nice, good, good looking) selected darker skin tones for children with

<sup>1</sup> \* $p \leq .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; \*\*\*\* $p < .0001$ ; ns=not statistically significant

negative traits (dumb, mean, bad ugly) and vice versa; children who selected darker skin tones for children with positive traits selected lighter skin tones for children with negative traits. There were also statistically significant positive correlations among children's scores on positive attitudes and beliefs and their scores on the social preferences ( $r = .43, p < .001$ ) and color preference subscales ( $r = .44, p < .001$ ), as well as their scores on the social preferences and color preference subscales ( $r = .52, p < .0001$ ). Children tended to select similar skin tones for all three subscales. The correlation between children's scores on color rejection and their scores on the other 4 subscales were not statistically significant.

The correlations among children's scores on the 5 subscales scores (i.e., positive attitudes and beliefs, negative attitudes and beliefs, social preferences, color preference and color rejection), and their scores on self-selected skin tone, preferred skin tone and least preferred skin tone as well as school demographic variables (% free lunch, % Black and % White) are presented in Table 3. Not surprisingly, children's self-selected skin tone and their preferred skin tone was positively correlated with their scores on the positive attitudes and beliefs, social preferences and color preference subscales. Children's skin tone selections for these variables tended to be similar. Conversely, children's skin tone selection for the least preferred skin tone was negatively correlated with their scores on positive attitudes and beliefs, social preferences and color preference indicating that as skin tone selections got lighter on one they got darker on the other, and positively correlated with their scores on the color rejection subscale indicating that middle childhood students tended to select similar skin tones for each.

Table 3.

Correlations among Subscales and School Demographics among Middle Childhood Children<sup>2</sup>

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<sup>2</sup> \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ ; \*\*\*\* $p < .0001$ ; ns=not statistically significant

	<i>Positive Attitudes</i>	<i>Negative Attitudes</i>	<i>Social Preferences</i>	<i>Color Preference</i>	<i>Color Rejection</i>
Self-Selected Skin Tone	.30*	ns	.42**	.55*****	ns
Preferred Skin Tone	.35**	ns	.48***	.68*****	ns
<i>Non- Preferred Skin tone</i>	-.34*	ns	-.25 <i>p = .07</i>	-.36**	.28*

*T-tests for Group Differences*

*Grade-level.* T-tests were performed to test differences between early and middle childhood children on their scores for positive attitudes and beliefs, negative attitudes and beliefs, and social preferences. Grade-level differences could not be tested for the color preference and color rejection subscales since there were two different versions used for younger and older children. The differences between younger and older children's scores on these subscales were not statistically significant.

*Gender.* T-tests were performed to test differences between boys and girls in the total sample on their scores for positive attitudes and beliefs, negative attitudes and beliefs, and social preferences. The difference between boys' and girls' scores on these subscales was not statistically significant. However, there was a trend-level finding for scores on the positive attitudes and beliefs scale ( $t(11) = -1.81, p = .07$ ), with boys (mean=3.47) scoring slightly higher than girls (3.21), suggesting that boys were slightly more likely than girls to select lighter skin tones for the smart, nice, good and good-looking child. Among early childhood children and

among middle school children there were no statistically significant gender differences for scores on the color preference or color rejection subscales.

*Race - total sample.* T-tests were performed to test differences between Black and White children on their scores for positive attitudes and beliefs, negative attitudes and beliefs, and social preferences. Results indicated statistically significant racial differences for scores on the positive attitudes and beliefs subscale,  $t(113) = -4.55$ ,  $p < .0001$ , and scores on the social preferences subscale,  $t(116) = -5.28$ ,  $p = .0001$ . For both subscales, the group means for the White children were higher than the group means for the Black children. In addition there was a trend level difference for Black and White children's scores on the negative attitudes and beliefs subscale,  $t(104) = 1.80$ ,  $p = .07$ , with the group mean for the White children lower than the group mean for the Black children.

*Race - early childhood sample.* Another series of t-tests were performed to test differences between Black and White pre-kindergarten and kindergarten children on their scores for all five subscales (i.e., positive attitudes and beliefs, negative attitudes and beliefs, social preferences, color preference and color rejection). Results indicated statistically significant racial differences for scores on the positive attitudes and beliefs subscale,  $t(62) = -4.54$ ,  $p < .0001$ , scores on the social preferences subscale,  $t(61) = -4.06$ ,  $p = .0001$ , and scores on the color preference subscale,  $t(63) = -2.09$ ,  $p < .05$ . For all three subscales, the group means for the White children were higher than the group means for the Black children, suggesting that White children tended to select lighter skin tones than Black children for items on these subscales. In addition there was a statistically significant difference for Black and White early childhood children's mean scores on the negative attitudes and beliefs subscale,  $t(61) = 3.38$ ,  $p < .01$ , with the group mean for the White children lower than the group mean for the Black children. This

suggests that White children tended to select darker skin tones than their Black classmates for the dumb, mean, bad and ugly child. There were no statistically significant racial differences for early childhood students' scores on the color rejection scale. (see Figures 1 and 2)

Figure 1. Mean scores for positive and negative attitudes and social preferences by race among the sample of early childhood children.

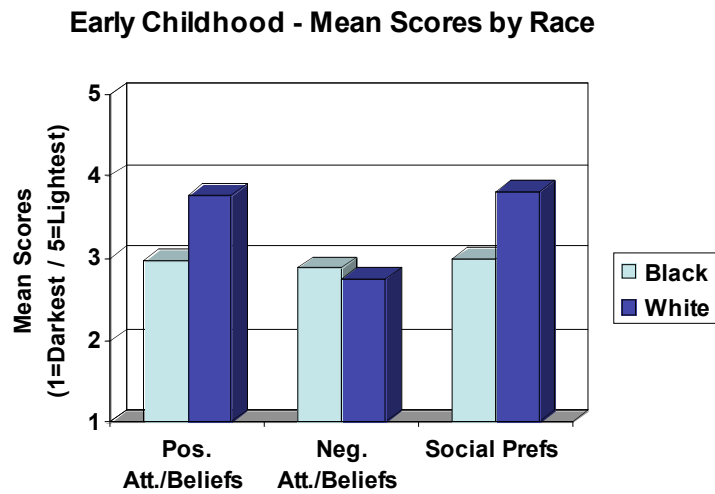
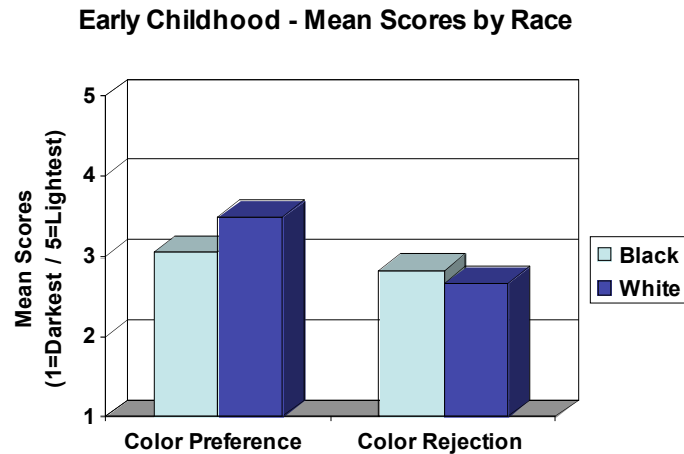


Figure 2. Mean scores for color preference and color rejection by race among the sample of early childhood children.



*Race - middle childhood sample.* Another series of t-tests were performed to test differences between Black and White middle childhood students on their scores for all five subscales (i.e., positive attitudes and beliefs, negative attitudes and beliefs, social preferences, color preference and color rejection). Results indicated statistically significant racial differences for scores on the social preferences subscale,  $t(53) = - 3.23, p < .01$ , and scores on the color preference subscale,  $t(55) = - 3.77, p < .001$ , and a trend level difference for scores on the positive attitudes and beliefs subscale,  $t(49) = - 1.80, p = .08$ . For all three subscales, the group means for the White middle childhood children were higher than the group means for the Black middle childhood children, suggesting that White children tended to select lighter skin tones than Black children for items on these subscales. There were no statistically significant racial differences for middle childhood students' scores on the negative attitudes and beliefs subscale or the color rejection subscale. (see Figures 3 and 4) Also, see Appendix A for an extracted summary of the findings reported thus far.

Figure 3. Mean scores for positive and negative attitudes and social preferences by race among the sample of middle childhood children.

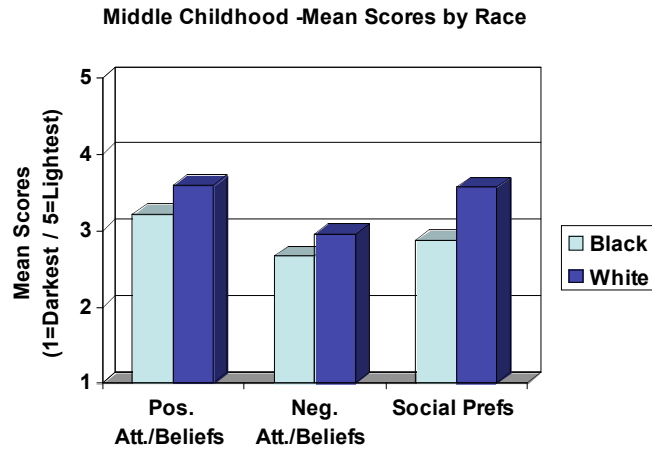
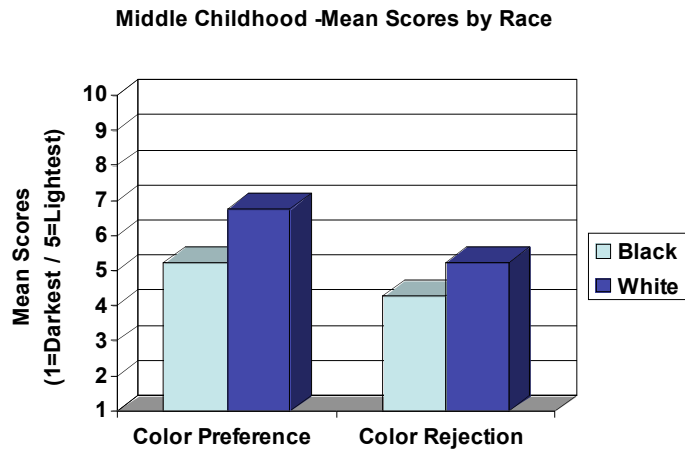


Figure 4. Mean scores for color preference and color rejection by race among the sample of middle childhood children



## Chi-Square Analyses for Racial Group Differences

Chi square analyses were conducted to examine racial group differences in children's selections of skin tone for each individual item on the Clark Replication Survey and on the Group Preference Survey. The following is a summary of the findings for the early childhood group of participants first, and then for the middle childhood group of participants.

### *Early Childhood Sample - Percents and Frequencies of Children's Skin Tone Selections for the Clark Replication Items by Racial Group*

The early childhood sample was comprised of 36 Black and 29 White children in prekindergarten and kindergarten.

- 1) Show me the "smart" child - the differences in frequency counts WERE NOT statistically significant (note: 1 Black child did not answer the question)
  - a) Two darkest skin tones
    - i) Black children - 37.14% (n=13)
    - ii) White children - 24.14 % (n=7)
  - b) Middle skin tone
    - i) Black children - 28.57% (n=10)
    - ii) White children - 17.24% (n=5)
  - c) Two lightest skin tones
    - i) Black children - 34.29% (n=12)
    - ii) White children - 58.62% (n=17)
- 2) Show me the "dumb" child - the differences in frequency counts WERE NOT statistically significant (note: 2 Black children did not answer the question)
  - a) Two darkest skin tones



- i) Black children - 50% (n=17)
  - ii) White children - 75.86% (n=22)
  - b) Middle skin tone
    - i) Black children - 8.82% (n=3)
    - ii) White children - 3.45% (n=1)
  - c) Two lightest skin tones
    - i) Black children - 41.18% (n=14)
    - ii) White children - 20.69% (n=6)
- 3) Show me the "nice" child- the differences in frequency counts WERE statistically significant; there more White and fewer Black children than expected who selected the two lightest skin tones (note: 1 Black child did not answer the question)
- a) Two darkest skin tones
    - i) Black children - 31.43% (n=11)
    - ii) White children - 10.34% (n=3)
  - b) Middle skin tone
    - i) Black children - 34.29% (n=12)
    - ii) White children - 20.69% (n=6)
  - c) Two lightest skin tones
    - i) Black children - 37.5% (n=12)
    - ii) White children - 62.5% (n=20)
- 4) Show me the "mean" child - the differences in frequency counts WERE NOT statistically significant (note: 1 Black child did not answer the question)
- a) Two darkest skin tones

- i) Black children - 57.14% (n=20)
  - ii) White children - 65.52% (n=19)
  - b) Middle skin tone
    - i) Black children - 11.43% (n=4)
    - ii) White children - 24.14% (n=7)
  - c) Two lightest skin tones
    - i) Black children - 31.43% (n=11)
    - ii) White children - 10.34% (n=3)
- 5) Show me the "good" child- the differences in frequency counts WERE NOT statistically significant (note: 1 Black child did not answer the question)
- a) Two darkest skin tones
    - i) Black children - 37.14% (n=13)
    - ii) White children - 20.69% (n=6)
  - b) Middle skin tone
    - i) Black children - 25.71% (n=9)
    - ii) White children - 27.59% (n=8)
  - c) Two lightest skin tones
    - i) Black children - 37.14% (n=13)
    - ii) White children - 51.72% (n=15)
- 6) Show me the "bad" child- the differences in frequency counts WERE statistically significant; there more fewer White and more Black children than expected who selected the two lightest skin tones (note: 1 Black child did not answer the question)
- a) Two darkest skin tones

- i) Black children - 37.14% (n=13)
  - ii) White children - 58.62% (n=17)
  - b) Middle skin tone
    - i) Black children - 20% (n=7)
    - ii) White children - 27.59% (n=8)
  - c) Two lightest skin tones
    - i) Black children - 42.86% (n=15)
    - ii) White children - 13.79% (n=4)
- 7) Show me the "good looking" child- the differences in frequency counts WERE statistically significant; there were more White and fewer Black children than expected who selected the two lightest skin tones (note: 1 Black child and 1 White child did not answer the question)
- a) Two darkest skin tones
    - i) Black children - 40% (n=14)
    - ii) White children - 7.14% (n=2)
  - b) Middle skin tone
    - i) Black children - 31.43% (n=11)
    - ii) White children - 10.71% (n=3)
  - c) Two lightest skin tones
    - i) Black children - 28.57% (n=10)
    - ii) White children - 82.14% (n=23)
- 8) Show me the "ugly" child- the differences in frequency counts WERE statistically significant; there were more Black and fewer White children than expected who selected the two lightest skin tones (note: 2 Black children and 1 White child did not answer the question)

- a) Two darkest skin tones
    - i) Black children - 41.18% (n=14)
    - ii) White children - 53.57% (n=15)
  - b) Middle skin tone
    - i) Black children - 11.76% (n=4)
    - ii) White children - 32.14% (n=9)
  - c) Two lightest skin tones
    - i) Black children - 47.06% (n=16)
    - ii) White children - 14.29% (n=4)
- 9) Show me the child you would like as a "classmate" - the differences in frequency counts WERE statistically significant; there were more White and fewer Black children than expected who selected the two lightest skin tones; there were also more Black and fewer White children who selected the two darkest skin tones (note: 1 Black child and 1 White child did not answer the question)
- a) Two darkest skin tones
    - i) Black children - 25.71% (n=9)
    - ii) White children - 3.57% (n=1)
  - b) Middle skin tone
    - i) Black children - 34.29% (n=12)
    - ii) White children - 7.14% (n=2)
  - c) Two lightest skin tones
    - i) Black children - 40% (n=14)
    - ii) White children - 89.29% (n=25)

10) Show me the child you would "like to play with"- the differences in frequency counts WERE statistically significant; there were more White and fewer Black children than expected who selected the two lightest skin tones; there were also more Black and fewer White children who selected the two darkest skin tones (note: 1 Black child and 1 White child did not answer the question)

- a) Two darkest skin tones
  - i) Black children - 57.14% (n=20)
  - ii) White children - 21.43% (n=6)
- b) Middle skin tone
  - i) Black children - 22.86% (n=8)
  - ii) White children - 14.29% (n=4)
- c) Two lightest skin tones
  - i) Black children - 20% (n=7)
  - ii) White children - 64.29% (n=18)

11) Show me the child you would "like to be friends with"- the differences in frequency counts WERE NOT statistically significant (note: 2 Black children and 1 White child did not answer the question)

- a) Two darkest skin tones
  - i) Black children - 35.29% (n=12)
  - ii) White children - 17.86% (n=5)
- b) Middle skin tone
  - i) Black children - 20.59% (n=7)
  - ii) White children - 32.14% (n=9)

- c) Two lightest skin tones
  - i) Black children - 44% (n=15)
  - ii) White children - 50% (n=14)

*Early Childhood Sample - Percents and Frequencies of Children's Skin Tone Selections  
for the Group Preference Scale Items by Racial Group*

12) Show me the child that has your skin color - as expected, the differences in frequency counts

WERE statistically significant; all of the White children selected the two lightest skin tones and all but three of the Black children selected the two darkest skin tones

- a) Two darkest skin tones
  - i) Black children - 44.44% (n=16)
  - ii) White children - 0% (n=0)
- b) Middle skin tone
  - i) Black children - 47.22% (n=17)
  - ii) White children - 0% (n=0)
- c) Two lightest skin tones
  - i) Black children - 8.33% (n=3)
  - ii) White children - 100% (n=17)

13) Show me the child who has the skin color you want as your own - the differences in frequency counts WERE NOT statistically significant

- a) Two darkest skin tones
  - i) Black children - 30.56% (n=11)
  - ii) White children - 24.14% (n=7)
- b) Middle skin tone

- i) Black children - 22.22% (n=8)
- ii) White children - 10.34% (n=3)
- c) Two lightest skin tones
  - i) Black children - 47.22% (n=17)
  - ii) White children - 65.52% (n=19)

14) Show me the child who has the skin color you don't want- the differences in frequency counts WERE statistically significant; there more White and fewer Black children than expected who selected the two darkest skin tones and there were more Black and fewer White children than expected who selected the two lightest skin tones (note: 1 Black child and 1 White child did not answer the question)

- a) Two darkest skin tones
  - i) Black children - 51.43% (n=18)
  - ii) White children - 85.71% (n=24)
- b) Middle skin tone
  - i) Black children - 0% (n=0)
  - ii) White children - 10.71% (n=3)
- c) Two lightest skin tones
  - i) Black children - 48.57% (n=17)
  - ii) White children - 3.57% (n=1)

15) Show me the child who has the skin color most children like - the differences in frequency counts WERE NOT statistically significant (note: 1 White child did not answer the question)

- a) Two darkest skin tones
  - i) Black children - 13.89% (n=5)

ii) White children - 17.86% (n=5)

b) Middle skin tone

i) Black children - 38.89% (n=14)

ii) White children - 28.57% (n=8)

c) Two lightest skin tones

i) Black children - 47.22% (n=17)

ii) White children - 53.57% (n=15)

16) Show me the child who has the skin color most children don't like- the differences in frequency counts WERE NOT statistically significant

a) Two darkest skin tones

i) Black children - 61.11% (n=22)

ii) White children - 65.52% (n=19)

b) Middle skin tone

i) Black children - 5.56% (n=2)

ii) White children - 10.34% (n=3)

c) Two lightest skin tones

i) Black children - 33.33% (n=12)

ii) White children - 24.14% (n=7)

17) Show me the child who has the skin color most boys/girls want- the differences in frequency counts WERE NOT statistically significant

a) Two darkest skin tones

i) Black children - 36.11% (n=13)

ii) White children - 17.24% (n=5)



- b) Middle skin tone
  - i) Black children - 30.56% (n=11)
  - ii) White children - 24.14% (n=7)
- c) Two lightest skin tones
  - i) Black children - 33.33% (n=12)
  - ii) White children - 58.62% (n=17)

18) Show me the child who has the skin color most boys/girls don't want- the differences in frequency counts WERE statistically significant; there were more Black and fewer White children than expected who selected the two lightest skin tones

- a) Two darkest skin tones
  - i) Black children - 52.78% (n=19)
  - ii) White children - 62.07% (n=18)
- b) Middle skin tone
  - i) Black children - 2.78% (n=1)
  - ii) White children - 17.24% (n=5)
- c) Two lightest skin tones
  - i) Black children - 44.44% (n=16)
  - ii) White children - 20.69% (n=6)

19) Show me the child who has the skin color most adults like- the differences in frequency counts WERE NOT statistically significant

- a) Two darkest skin tones
  - i) Black children - 41.67% (n=15)
  - ii) White children - 27.59% (n=8)

- b) Middle skin tone
  - i) Black children - 27.78% (n=10)
  - ii) White children - 17.24% (n=5)
- c) Two lightest skin tones
  - i) Black children - 30.56% (n=11)
  - ii) White children - 55.17% (n=16)

20) Show me the child who has the skin color most adults don't like - the differences in frequency counts WERE NOT statistically significant

- a) Two darkest skin tones
  - i) Black children - 36.11% (n=13)
  - ii) White children - 58.62 % (n=17)
- b) Middle skin tone
  - i) Black children - 19.44% (n=7)
  - ii) White children - 10.34% (n=3)
- c) Two lightest skin tones
  - i) Black children - 44.44% (n=16)
  - ii) White children - 31.03% (n=9)

*Middle Childhood Sample - Percents and Frequencies of Children's Skin Tone Selections  
for the Clark Replication Items by Racial Group*

The middle childhood sample was comprised of 39 Black and 29 White children in grades three through five.

- 1) Show me the "smart" child - the differences in frequency counts WERE statistically significant; there were more White and fewer Black children than expected who selected the two lightest skin tones (note: 1 Black child and 1 White child did not answer the question; in addition, 4 Black children and 8 White children did not make a selection; they claimed that all of the children could be smart and, thus, they could not select just one child)
  - a) Two darkest skin tones
    - i) Black children - 17.65% (n=6)
    - ii) White children - 0% (n=0)
  - b) Middle skin tone
    - i) Black children - 44.12% (n=15)
    - ii) White children - 30% (n=6)
  - c) Two lightest skin tones
    - i) Black children - 38.24% (n=13)
    - ii) White children - 70% (n=14)
- 2) Show me the "dumb" child - the differences in frequency counts WERE NOT statistically significant (note: 1 Black child and 1 White child did not answer the question; in addition, 12 Black children and 12 White children did not make a selection; 1 children claimed that he/she didn't know which child was the dumb child and 23 claimed that none of them were the dumb child. For example, "All kids are smart in something.")

- a) Two darkest skin tones
    - i) Black children - 42.31% (n=11)
    - ii) White children - 25% (n=4)
  - b) Middle skin tone
    - i) Black children - 15.38% (n=4)
    - ii) White children - 31.25% (n=5)
  - c) Two lightest skin tones
    - i) Black children - 42.31% (n=11)
    - ii) White children - 43.75% (n=7)
- 3) Show me the "nice" child- the differences in frequency counts WERE NOT statistically significant (note: 1 Black child and 1 White child did not answer the question; in addition, 4 Black children and 11 White children did not make a selection; most claimed that all of them could be nice and, thus, they would not select just one child)
- a) Two darkest skin tones
    - i) Black children - 35.29% (n=12)
    - ii) White children - 29.41% (n=5)
  - b) Middle skin tone
    - i) Black children - 23.53% (n=8)
    - ii) White children - 23.53% (n=4)
  - c) Two lightest skin tones
    - i) Black children - 41.18% (n=14)
    - ii) White children - 47.06% (n=8)

- 4) Show me the "mean" child - the differences in frequency counts WERE NOT statistically significant (note: 1 Black child and 1 White child did not answer the question; in addition, 7 Black children and 12 White children did not make a selection; most claimed that none of them were mean)
- a) Two darkest skin tones
    - i) Black children - 54.84% (n=17)
    - ii) White children - 43.75% (n=7)
  - b) Middle skin tone
    - i) Black children - 12.9% (n=4)
    - ii) White children - 25% (n=4)
  - c) Two lightest skin tones
    - i) Black children - 32.26% (n=10)
    - ii) White children - 31.25% (n=5)
- 5) Show me the "good" child- the differences in frequency counts WERE NOT statistically significant (note: 1 Black child and 1 White child did not answer the question; in addition, 3 Black children and 9 White children did not make a selection; most of these children claimed that all of them could be nice and, thus, they could not choose just one child)
- a) Two darkest skin tones
    - i) Black children - 31.43% (n=11)
    - ii) White children - 31.58% (n=6)
  - b) Middle skin tone
    - i) Black children - 22.86% (n=8)
    - ii) White children - 21.05% (n=4)

- c) Two lightest skin tones
  - i) Black children - 45.71% (n=16)
  - ii) White children - 47.37% (n=9)
- 6) Show me the "bad" child- the differences in frequency counts WERE NOT statistically significant (note: 1 Black child and 1 White child did not answer the question; in addition, 6 Black children and 10 White children did not make a selection; most of these children claimed that none of them was the bad child)
  - a) Two darkest skin tones
    - i) Black children - 59.38% (n=19)
    - ii) White children - 50% (n=9)
  - b) Middle skin tone
    - i) Black children - 12.5% (n=4)
    - ii) White children - 11.11% (n=2)
  - c) Two lightest skin tones
    - i) Black children - 28.13% (n=9)
    - ii) White children - 38.89% (n=7)
- 7) Show me the "good looking" child- the differences in frequency counts WERE statistically significant; there were more White and fewer Black children than expected who selected the two lightest skin tones (note: 1 Black child and 1 White child did not answer the question; in addition, 6 Black and 11 White children did not make a selection; most of the children claimed that all of the children were good-looking and, thus, they could not select just one child)
  - a) Two darkest skin tones

- i) Black children - 31.25% (n=10)
  - ii) White children - 5.88% (n=1)
  - b) Middle skin tone
    - i) Black children - 34.38% (n=11)
    - ii) White children - 17.65% (n=3)
  - c) Two lightest skin tones
    - i) Black children - 34.38% (n=11)
    - ii) White children - 76.47% (n=13)
- 8) Show me the "ugly" child- the differences in frequency counts WERE NOT statistically significant (note: 1 Black child and 1 White child did not answer the question; in addition, 10 Black children and 14 White children did not make a selection; most of them claimed that none of them were ugly )
- a) Two darkest skin tones
    - i) Black children - 46.43% (n=13)
    - ii) White children - 35.71% (n=5)
  - b) Middle skin tone
    - i) Black children - 21.43% (n=6)
    - ii) White children - 35.71% (n=5)
  - c) Two lightest skin tones
    - i) Black children - 32.14% (n=9)
    - ii) White children - 28.57% (n=4)
- 9) Show me the child you would like as a "classmate" - the differences in frequency counts WERE statistically significant; there were more White and fewer Black children than

expected who selected the two lightest skin tones; there were also more Black and fewer White children who selected the two darkest skin tones (note: 1 Black child and 1 White child did not answer the question; in addition, 4 Black and 7 White children did not make a selection, claiming that they would like any of them as a classmate)

- a) Two darkest skin tones
  - i) Black children - 52.94% (n=18)
  - ii) White children - 14.29% (n=3)
- b) Middle skin tone
  - i) Black children - 29.41% (n=10)
  - ii) White children - 28.57% (n=6)
- c) Two lightest skin tones
  - i) Black children - 17.65% (n=6)
  - ii) White children - 57.14% (n=12)

10) Show me the child you would "like to play with"- the differences in frequency counts WERE NOT statistically significant (note: 1 Black child and 1 White child did not answer the question; in addition, 4 Black children and 7 White children did not make a selection, claiming that they would like to play with any of them or that they would have to get to know them before making a decision)

- a) Two darkest skin tones
  - i) Black children - 41.18% (n=14)
  - ii) White children - 28.57% (n=6)
- b) Middle skin tone
  - i) Black children - 20.59% (n=7)



- ii) White children - 4.76% (n=1)
  - c) Two lightest skin tones
    - i) Black children - 38.24% (n=13)
    - ii) White children - 66.67% (n=14)
- 11) Show me the child you would "like to be friends with"- the differences in frequency counts WERE statistically significant; there were fewer White and more Black children than expected who selected the two darkest skin tones and there were more White and fewer Black children than expected who selected the middle skin tone (note: 1 Black child and 1 White child did not answer the question; in addition, 5 Black and 10 White children did not make a selection, claiming that they would like to be friends with all of them or any of them)
- a) Two darkest skin tones
    - i) Black children - 35.29% (n=13)
    - ii) White children - 17.86% (n=1)
  - b) Middle skin tone
    - i) Black children - 20.59% (n=7)
    - ii) White children - 32.14% (n=9)
  - c) Two lightest skin tones
    - i) Black children - 44% (n=13)
    - ii) White children - 50% (n=8)

*Middle Childhood Sample - Percents and Frequencies of Children's Skin Tone Selections  
for the Group Preference Scale Items by Racial Group*

12) Show me the color that looks like your skin color - as expected, the differences in frequency counts WERE statistically significant; all of the White children selected the two lightest skin tones and all but one of the Black children selected the two darkest skin tones

a) Darkest skin tones

i) Black children - 44.44% (n=17)

ii) White children - 0% (n=0)

b) Middle skin tones

i) Black children - 47.22% (n=21)

ii) White children - 0% (n=0)

c) Lightest skin tones

i) Black children - 8.33% (n=1)

ii) White children - 100% (n=29)

13) Show me the skin color you want as your own - the differences in frequency counts WERE statistically significant; not surprisingly, there were more Black and fewer White children than expected who selected the darkest and middle skin tones and more White and fewer Black children than expected who selected the lightest skin tones (note: 1 Black and 1 White child did not make a selection)

a) Darkest skin tones

i) Black children - 42.11% (n=16)

ii) White children - 0% (n=0)

b) Middle skin tones

i) Black children - 50% (n=19)

ii) White children - 14.29 (n=4)

- c) Lightest skin tones
  - i) Black children - 15.55% (n=3)
  - ii) White children - 85.71% (n=24)

14) Show me the skin color you don't want- the differences in frequency counts WERE NOT statistically significant (note: 4 Black children and 3 White children did not make a selection)

- a) Darkest skin tones
  - i) Black children - 31.43% (n=11)
  - ii) White children - 30.77% (n=8)
- b) Middle skin tones
  - i) Black children - 5.71% (n=2)
  - ii) White children - 7.691% (n=2)
- c) Lightest skin tones
  - i) Black children - 62.86% (n=22)
  - ii) White children - 61.54% (n=16)

15) Show me the skin color most children think looks good on a boy/girl - the differences in frequency counts WERE NOT statistically significant (note: 3 Black and 5 White children did not make a selection)

- a) Darkest skin tones
  - i) Black children - 13.89% (n=5)
  - ii) White children - 17.86% (n=5)
- b) Middle skin tones
  - i) Black children - 38.89% (n=14)
  - ii) White children - 28.57% (n=8)

- c) Lightest skin tones
  - i) Black children - 47.22% (n=17)
  - ii) White children - 53.57% (n=15)

16) Show me the skin color most children think looks bad on a boy/girl- the differences in frequency counts WERE NOT statistically significant (note: 5 Black and 7 White children did not make a selection)

- a) Darkest skin tones
  - i) Black children - 70.59% (n=24)
  - ii) White children - 54.55% (n=12)
- b) Middle skin tones
  - i) Black children - 8.82% (n=3)
  - ii) White children - 9.09% (n=2)
- c) Lightest skin tones
  - i) Black children - 20.59% (n=7)
  - ii) White children - 36.36% (n=8)

17) Show me the skin color you believe most boys/girls want- the differences in frequency counts WERE NOT statistically significant (note: 3 Black and 5 White children did not make a selection)

- a) Darkest skin tones
  - i) Black children - 13.89% (n=5)
  - ii) White children - 4.17% (n=1)
- b) Middle skin tones
  - i) Black children - 44.44% (n=16)

ii) White children - 25% (n=6)

c) Lightest skin tones

i) Black children - 41.67% (n=15)

ii) White children - 70.83% (n=17)

18) Show me the skin color you believe most boys/girls don't want- the differences in frequency counts WERE statistically significant; there were more Black and fewer White children than expected who selected the two lightest skin tones (note: 4 Black and 5 White children did not make a selection)

a) Darkest skin tones

i) Black children - 57.14% (n=20)

ii) White children -41.67% (n=10)

b) Middle skin tones

i) Black children - 5.71% (n=2)

ii) White children - 20.83% (n=5)

c) Lightest skin tones

i) Black children - 37.14% (n=13)

ii) White children - 37.5% (n=9)

19) Show me the skin color you believe most adults think looks good on a boy/girl- the differences in frequency counts WERE statistically significant; there were more Black and fewer White children than expected who selected the darkest and middle skin tones and more White and fewer Black children than expected who selected the lightest skin tones (note: 4 Black and 7 White children did not make a selection)

a) Darkest skin tones

- i) Black children - 25.71% (n=9)
- ii) White children - 4.55% (n=1)
- b) Middle skin tones
  - i) Black children - 48.57% (n=17)
  - ii) White children - 18.18% (n=4)
- c) Lightest skin tones
  - i) Black children - 25.71% (n=9)
  - ii) White children - 77.27% (n=17)

20) Show me the skin color you believe most adults think looks bad on a boy/girl - the

differences in frequency counts WERE statistically significant; there were fewer White and more Black children than expected who selected the darkest skin tones and more White and fewer Black children than expected who selected the middle skin tones (note: 5 Black and 8 White children did not make a selection)

- a) Darkest skin tones
  - i) Black children - 44.12% (n=15)
  - ii) White children -28.57 % (n=6)
- b) Middle skin tones
  - i) Black children - 2.94% (n=1)
  - ii) White children - 23.81% (n=5)
- c) Lightest skin tones
  - i) Black children - 52.94% (n=18)
  - ii) White children -47.62% (n=10)

21) Show me the skin color you believe most teachers think looks good on a boy/girl- the differences in frequency counts WERE NOT statistically significant (note: 6 Black and 7

White children did not make a selection)

a) Darkest skin tones

i) Black children - 12.12% (n=4)

ii) White children - 0% (n=0)

b) Middle skin tones

i) Black children - 45.45% (n=15)

ii) White children - 36.36% (n=8)

c) Lightest skin tones

i) Black children - 42.42% (n=14)

ii) White children - 63.64% (n=14)

22) Show me the child who has the skin color you believe most teachers think looks bad on a boy/girl - the differences in frequency counts WERE NOT statistically significant (note: 7

Black and 6 White children did not make a selection)

a) Darkest skin tones

i) Black children - 50% (n=16)

ii) White children - 30.43 % (n=7)

b) Middle skin tones

i) Black children - 9.38% (n=3)

ii) White children - 26.09% (n=6)

c) Lightest skin tones

i) Black children - 40.63% (n=13)

ii) White children -43.48% (n=10)



## **APPENDIX A.**

### **Extracted Findings**

#### *Correlations: Early childhood*

- Children who associated positive traits (i.e., smart, nice, good, good looking) for pictures of lighter skin tone children also generally selected darker skin tones for children with negative traits (dumb, mean, bad ugly) and vice versa; children who selected darker skin tones for children with positive traits selected lighter skin tones for children with negative traits ( $r = -.76, p < .0001$ ).
- Children who preferred lighter skin tones rejected darker skin tones and children who preferred darker skin tones rejected lighter skin tones.
- Children tended to select similar skin tones for all three subscales
  - positive attitudes and beliefs and social preferences ( $r = .60, p < .0001$ )
  - positive attitudes and beliefs and color preferences ( $r = .54, p < .0001$ ), and
  - social preferences and color preference ( $r = .48, p < .0001$ )
- Self-selected skin tone and preferred skin tone correlations (refer to Table 2).
  - Children's self-selected skin tone and their preferred skin tone tended to be similar (e.g., both selections were either dark or they were both light).
  - Children's self-selected skin tone was negatively correlated with their scores on negative attitudes and beliefs ( $r = -.48, p < .0001$ ) and color rejection ( $r = -.36, p < .01$ ) (i.e., lighter skin tones on one variable were related to darker tones on the other).
- Least preferred skin tone correlations (refer to Table 2).
  - When children's least preferred skin tone was light, dark skin tones were selected
    - for positive attitudes and beliefs ( $r = -.58, p < .0001$ );
    - social preferences ( $r = -.52, p < .0001$ );
    - color preferences ( $r = -.40, p < .01$ ) and vice versa: if least preferred skin tone was dark, light tones were selected for attitudes, social preferences, and color preferences.
  - When children's least preferred skin tone was light, color rejection was also light ( $r = .46, p < .001$ ) indicating that early childhood students tended to select similar skin tones for each (also, if least preferred skin tone was dark, color rejection was dark).

*Correlations: Middle Childhood*

- Children who selected lighter skin tones for the children with positive traits (i.e., smart, nice, good, good looking) selected darker skin tones for children with negative traits (dumb, mean, bad ugly) and vice versa; children who selected darker skin tones for children with positive traits selected lighter skin tones for children with negative traits ( $r = -.56, p < .0001$ ).
- Children tended to select similar skin tones for
  - positive attitudes and beliefs and social preferences ( $r = .43, p < .001$ )
  - positive attitudes and beliefs and color preference ( $r = .44, p < .001$ ), and
  - social preferences and color preference subscales ( $r = .52, p < .0001$ ).
- Self-selected skin tone and preferred skin tone correlations (refer to Table 3).
  - Children's self-selected skin tone and their preferred skin tone tended to be similar (e.g., both selections were either dark or they were both light).
  - Children's self-selected skin tone was positively correlated with (i.e., similar to) their positive attitudes and beliefs ( $r = .30, p < .05$ ), social preferences ( $r = .42, p < .01$ ) and color preferences ( $r = .55, p < .0001$ ) (i.e., lighter skin tones on one variable were related to lighter tones on the other).
- Least preferred skin tone correlations (see Table 3).
  - When children's least preferred skin tone was light, dark skin tones were selected
    - for positive attitudes and beliefs ( $r = -.34, p < .05$ );
    - social preferences ( $r = -.25, p < .07$ );
    - color preferences ( $r = -.36, p < .01$ ) and vice versa: if least preferred skin tone was dark, light tones were selected for attitudes, social preferences, and color preferences.
  - When children's least preferred skin tone was light, color rejection was also light ( $r = .28, p < .001$ ) indicating that early childhood students tended to select similar skin tones for each (also, if least preferred skin tone was dark, color rejection was dark).

### *T-Tests for Group Differences*

#### Grade-level

- There were no differences between the younger and older students on their positive attitudes and beliefs, negative attitudes and beliefs, and social preferences.
- Due to different versions being administered to the younger and older students, grade level differences could not be assessed on color preferences and color rejection.

#### Gender

- There was a slight tendency for boys, more than girls, to select lighter skin tones for the smart, nice, good, and good-looking child.
- There were no differences between boys and girls on positive attitudes and beliefs, negative attitudes and beliefs, and social preferences.

#### Race – early childhood

- White students selected lighter skin tones more than Black students when indicating positive attitudes and beliefs, social preferences, and color preferences (see Figures 1 and 2).
- White children tended to select darker skin tones than their Black classmates for the dumb, mean, bad, and ugly child.
- There were no differences between Black and White early childhood students on skin tones for color rejection (see Figure 2).

#### Race – middle childhood

- White students selected lighter skin tones more than Black students when indicating positive attitudes and beliefs, social preferences, and color preferences (see Figure 3).
- There were no differences between Black and White middle childhood students when indicating skin tones for negative attitudes and beliefs or color rejection (see Figure 4).

## References

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