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**Individual Differences in Children's Group Perceptions and Peer Preferences  
as a Function of Prejudice Level**

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**in**

**The Department**

**of**

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## Abstract

Individual Differences in Children's Group Perceptions and Peer Preferences  
as a Function of Prejudice Level

Sepideh Zargarpour

This study examined relationships between level of racial prejudice, as measured by the Multiple-Response Racial Attitude Measure (MRA: Doyle & Aboud, 1995), and "White" children's (a) judgments of individual group members (i.e., stereotyping), (b) perceptions of trait variance and of trait prevalence for same- versus cross-race peers, (c) readiness to make evaluative judgments about individual, same- versus cross-race peers (measured via a response-latency paradigm), and (d) expressed preferences for same- and cross-race peers. It further examined interrelationships between different measures of group perception, as well as between various measures of peer preference. The relative strengths of measures of group perception in predicting children's preferences for same versus cross-race peers were also examined.

The subjects were 103, third-grade, English-speaking boys and girls living in suburban Montreal. Overall, the results provided support for the predictive value of individual differences in children's racial prejudice. Low- and High-Prejudice children had expectations that were largely consistent with their prejudice level on a number of measures of group perception. They differed, for example, in their behavioural expectations from Black and White hypothetical peers, in their expectations of the prevalence of positive traits for Whites versus Blacks, in their perceptions of the variance of traits within each group, in the speed with which they made decisions about Black versus White targets, and in the readiness with which they responded to evaluatively positive versus negative questions, regardless of race.

Sex, however, appeared to have a stronger influence on children's preferences for same- and cross-race peers than prejudice level, with girls generally showing more in-group preferences than boys. Children's expressed liking for unknown Black peers was not significantly related to their liking for actual Non-White peers. The MRA was the only one of the measures of group perception which contributed significantly to the prediction of preference for unknown Black peers. Relatively weak relationships were found between the various cognitive and affective components of prejudice.

Results are discussed in terms of implications for the predictive value of individual differences in prejudice, the clarification of cognitive processes and knowledge structures underlying children's racial attitudes, the clarification of relationships between the cognitive and affective components of racial attitudes in children, and children's behaviours and affect toward, as well as expectations from, actual cross-race peers.

### Acknowledgments

To conduct studies on racial prejudice in children has been a long-held desire and goal for me. I, therefore, wish to express my deep gratitude to my thesis supervisor, Dr. William Bukowski, for having allowed me the opportunity to do research in this area and for his moral and intellectual support throughout my graduate studies. I truly appreciate his excellent qualities as a researcher and as an individual. I also deeply thank Dr. Frances Aboud for her encouragement, attention to the details of the study and the writing of this thesis, timely feedback, helpful comments, as well as allowing me the use of some testing material. I am also very grateful to other members of my thesis committee, Dr. Anna-Beth Doyle and Dr. Norman Segalowitz, for their warm enthusiasm about this project and their very helpful comments. I wish to also thank Mr. Paul Eiffert for his expert implementation of the computer programme required for a portion of this study. The programme was truly a success and the children enjoyed working with it.

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Ye are the fruits of one tree,  
and the leaves of one branch.  
Deal ye one with another with the utmost  
love and harmony, with friendliness and fellowship...

So powerful is the Light of Unity  
That it can illuminate the Whole Earth.

- Baha'u'llah

## Introduction

Throughout history, prejudice has been one of the main obstacles to the development of human potential and to the establishment of just societies. According to Brown (1995), prejudice is "the holding of derogatory social attitudes or cognitive beliefs, the expression of negative affect, or the display of hostile or discriminatory behaviour toward members of a group on account of their membership of that group" (p. 8). Prejudice may be considered, therefore, one of the most important and challenging issues facing the world community, especially at a time when many societies are becoming increasingly diverse.

The fact that racial prejudice is still prevalent, to various degrees, within the adult population is perhaps not surprising. Approximately 10-15% of White North American adults have been found to be prone to expressing overt forms of racism, whereas, 85-90% are believed to be practicing subtle forms of bias (Dovidio & Gaertner, 1998). Perhaps more surprising are findings which show that prejudice is not limited to adults. Indeed, studies conducted in a number of countries, including Canada, the United States, Australia, and Portugal, have established that children as young as four and five years old tend to evaluate racial differences negatively (e.g., Doyle & Aboud, 1995; Williams, Best, & Boswell, 1975; Black-Gutman & Hickson, 1996; Neto & Williams, 1997). Despite our growing knowledge of the prevalence of prejudice in children, however, an important question that remains in developmental psychology is the extent to which racial prejudice in children resembles prejudice in adults.

Although differing in their assumptions, psychological theories that were predominant in the past, such as Frenkel-Brunswick's (1948) psychodynamic theory, Adorno, Frenkel-Brunswick, Levinson, and Sanford's (1950) personality theory, and Allport's (1954) social-cultural perspective, implied that prejudice is essentially an adult

phenomenon which gets transmitted to children via parental or societal influences. Indeed, a review of the psychological literature on racial prejudice reveals a wide gap in the number of studies conducted on adults compared to those on children. The examination of prejudice in children, as a separate phenomenon, has been a relatively recent trend, due possibly to the influence of cognitive-motivational (e.g., Tajfel and Turner's, 1979, social identity theory) and social-cognitive developmental (e.g., Aboud, 1988; Katz, 1976) perspectives of prejudice and ethnocentrism.

Social-cognitive developmental theories (henceforth referred to as SCD theories) essentially propose that prejudice in children is related to their stage of cognitive development (see Aboud, 1988; Black-Gutman & Hickson, 1996; Doyle & Aboud, 1995; Katz, 1976; Piaget & Weil, 1951). Research stemming from SCD perspectives has helped to pave the road toward a better understanding of the ways in which prejudice in children may differ from prejudice in adults. Despite such progress, or perhaps because of it, a great number of questions remain to be examined with regard to the knowledge structures and cognitive processes which underlie children's racial attitudes, as well as the relationships of cognitive and social-cognitive factors to children's judgements of, and affective responses toward, others who belong to different ethnic or racial groups.

The current study examines the influence of the racial prejudice of "White" children (i.e., children from European and Middle-Eastern backgrounds) on their perceptions and evaluations of others belonging to the same and other racial groups. More specifically, it examines relationships between prejudice level and children's (a) judgments of individual group members (assessed via a stereotyping measure), (b) perceptions of trait variance and of trait prevalence for same- versus cross-race peers, (c) "automatic" decisions about unknown, same- versus cross-race peers (i.e., measured via a response-latency paradigm), and (d) behavioural intentions toward and expressed preferences for known and unknown, same- and cross-race, peers. Furthermore, this study examines interrelationships between

different measures of group perception, as well as the relative strengths of such measures in predicting children's behavioral intentions toward and preferences for same versus cross-race peers.

The issues outlined above were examined with third-grade Canadian children. The selection of third-graders was based on previous research which has found considerable variability in the prejudice scores of children within this age group (e.g., Doyle & Aboud, 1995), and also on findings that the majority of the children in this age group have attained the concrete operations stage of cognitive development, a stage which has typically been found to be related to lower levels of prejudice in children (see Aboud & Amato, 2001). The possibility that not all children who are at or beyond this stage have low levels of prejudice allows for the examination of individual difference variables that may not be related to purely cognitive-developmental factors (Aboud, 1988; Doyle & Aboud, 1995).

As background for the study, I first review the literature related to SCD theories and to the measurement of prejudice in children. I then discuss some of the relevant directions for research that have been suggested by these studies, as well as the objectives of the present thesis.

### Cognitive- and Social-Cognitive Developmental Perspectives of Prejudice

Cognitive perspectives of prejudice have generally viewed stereotyping as a cognitive component of prejudice and as an inevitable outcome of cognitive categorization (see e.g., Taylor & Moghaddam, 1987). Since children are considered to have less mature cognitive structures than adults, cognitive-developmental theories hold that the prejudice exhibited by young children is associated with immature thought processes (Katz, 1976; Piaget & Weil, 1951). Such theories predict, therefore, that developmental changes in prejudicial attitudes will be related to stages of cognitive and social-cognitive development (see Aboud, 1988; Katz, 1976).

SCD perspectives are derived from Piaget's theory of prejudice (Piaget & Weil, 1951), and have since been elaborated by researchers such as Katz (1976) and Aboud (see e.g., Aboud, 1988; Doyle & Aboud, 1995). Piaget and Weil (1951) proposed that prejudice in children is in part due to their ability to classify others into ingroups and outgroups, and to their limited abilities to accept that (a) differences on one dimension do not necessarily mean differences on other dimensions, and that (b) differences between groups are reconcilable. This theory predicts a decrease in the prejudice of children who have reached the concrete operations stage of cognitive development (i.e., at about 7 years of age). It is at this stage that children typically develop cognitive abilities, such as multiple classification, which enables them to consider that a stimulus can simultaneously belong to different categories. During and after this stage, children are expected to improve in their ability to conceive of others as being similar to themselves on features other than ethnicity, to improve their ability to take the perspectives of others, and to focus more on internal rather than external attributes of self and others (see Aboud, 1988; Aboud & Skerry, 1983; Katz, 1976).

Lending support to SCD perspectives of prejudice, a number of cross-sectional and longitudinal studies of children have found declines in prejudice with age (e.g., Bigler & Liben, 1993; Corenblum & Annis, 1987; Clark, Hocevar & Dembo, 1980; Doyle, Beaudet & Aboud, 1988; Doyle & Aboud, 1995; Katz & Zalk, 1978; Lerner & Buehrig, 1975; Ramsey, 1991; Williams & Morland, 1976; also see Yee & Brown, 1992 for prejudice toward artificially created groups). More specifically, studies have typically shown an inverted-U relation between age and the racial prejudice of White children: that is, the beginnings of strong bias at 4 to 5 years of age, an increase in bias between 5 and 7 years of age, and then a decrease in the bias of many, but not all, older children. Aboud and Amato (2001) have argued that such developmental decreases in prejudice after the age of 7 are likely related to a number of developmental changes in cognitive and social-cognitive

abilities, such as more mature cognitions, which enable children to think in a more differentiated and realistic way about people.

#### Development of the Multiple-Response Racial Attitude Measure (MRA)

Until recently, developmental decreases in the prejudice of White children were found through the administration of conventional measures, such as the Preschool Racial Attitude Measure (PRAM: Williams, Best & Boswell, 1975a) and PRAM II (Williams, Best, Boswell, Mattson & Graves, 1975b). The PRAM II requires children to choose between White and Black figures in response to the presentation of positive and negative adjectives, and yields a Bias score which is obtained by summing Positive-White and Negative-Black scores.

As researchers have recently pointed out, however, a problem with such forced-choice is that a child's positive attitude toward one group may be confounded with the child's rejection of another (Aboud, 1988; Branch & Newcombe, 1986; Doyle, Beaudet, & Aboud, 1988). Moreover, as Doyle and Aboud (1995) have argued, such measures do not allow for the examination of whether developmental decreases in prejudice reflect "a decrease in ethnocentric biases or an increase in attitudes that run counter to biases (i.e., an increase in positive attitudes to other groups and/or an increase in negative attitudes to own group)" (Doyle & Aboud, 1995, p. 210).

Taking the limitations of forced-choice measures into consideration, Doyle and Aboud (1995) developed a free-choice format measure of racial attitudes, called the Multiple-Response Racial Attitude measure (MRA). The MRA was designed to obtain separate measurements of both positive and negative attitudes towards two or more groups. When children are presented with a European-American (White) and an African-American (Black) figure, for example, the MRA yields a positive and a negative score for each of these racial groups, as well as a "White/Black (W/B) Bias" score, derived by summing the

Positive-White and Negative-Black scores, and a "W/B Counter-Bias" score, derived by summing the Negative-White and Positive-Black scores.

The use of the MRA in recent studies (see e.g., Doyle & Aboud, 1995; Black-Gutman & Hickson, 1996) has allowed researchers to have a more detailed understanding of developmental changes and individual differences in the prejudice of children. In one study, for example, Doyle and Aboud (1995) obtained measures of prejudice using both the PRAM II and the MRA within a study that included both longitudinal and cross-sectional data. They found that although the average level of prejudice of White children decreased with age (i.e., from kindergarten to grade 3) on the PRAM II, this decrease in prejudice manifested itself as an increase in "Counterbias" scores (i.e., positive evaluations of the outgroups and negative evaluations of Whites) on the MRA with age, rather than by a decrease in their "Bias" scores (i.e., negative evaluations of outgroups and positive evaluations of the White group). This was true for both the cross-sectional and longitudinal data. Looking at their data in another way, they found that 80% of the children in the longitudinal data showed reductions in their MRA Composite and Counterbias scores, whereas, only 35% of the children showed decreases or remained constant in their MRA Bias scores. Based on their findings, Doyle and Aboud (1995) proposed that lower levels of prejudice in older children, and in less prejudiced children may be better accounted for by higher levels of Counterbias than by lower levels of Bias toward target groups.

Prejudice has been found to be significantly related to a number of cognitive skills, such as conservation and multiple-classification skills (Doyle, Beaudet, & Aboud, 1988), as well as to social-cognitive skills, such as the ability to reconcile different racial perspectives (reconciliation), and the perception of between-race similarities and within-race differences (see e.g., Doyle & Aboud, 1995; Black-Gutman & Hickson, 1996; Katz, Sohn, & Zalk, 1975). Doyle and Aboud (1995) found, for example, that changes in prejudice between kindergarten and grade 3 were most closely associated with changes in



reconciliation and perceptions of within- and between-group differences. In another study Black-Gutman and Hickson (1996) found that the abilities to reconcile different racial perspectives and to perceive between-race similarity were moderately related to greater racial tolerance in 5- to 12-year-old Australian children.

As pointed out by Doyle and Aboud (1995), other findings have suggested that individual differences in prejudice may not be due to purely cognitive-developmental factors. Specifically, Doyle and Aboud (1995) found that 50% of the third graders in their study remained prejudiced, even though almost all of them had attained concrete operational stage of cognitive development. They also found that some of the social-cognitive abilities that they had assessed in their study significantly predicted which children would be relatively unbiased *at a given age*. As an example, they found that greater perception of within-race similarity was associated with higher levels of prejudice in each grade separately. In addition, these authors suggested that their findings of individual differences in the Counterbias scores of the children could indicate that some children possess a more tolerant set of attitudes to counter their prejudice, while others retain only biased attitudes.

Further evidence for the validity of the MRA has come from studies which have examined the relationship between children's scores on the MRA and their race-related behaviour. Aboud and Doyle (1996), for example, paired low- and high-prejudice children together and asked them to discuss their reasons for having made certain evaluations on the MRA. Their discussions were recorded and then coded according to the types of arguments made by high- versus low-prejudice children. The children were then tested again on the MRA in order to assess the effects of such discussions on their prejudice scores. These researchers found that the arguments of low-prejudice children included more negative evaluations of Whites and more mentions of cross-race similarities. They also found that although the post-discussion MRA scores of the low-prejudice children remained unchanged, the MRA Composite scores (i.e., Bias minus Counterbias scores) of

high-prejudice partners dropped significantly. This reduction was found to be significantly correlated with the frequency with which low-prejudice partners made positive statements and examples about Blacks, made negative statements and examples about Whites, and made reference to cross-race similarity. In another study, which will be discussed in further detail below, Aboud (1993) obtained significant correlations between the scores of fifth-graders on the MRA and their same- and cross-race peer relations.

#### Challenges to Social-Cognitive-Developmental Theories

Despite such evidence for the role of cognitive and social-cognitive variables in the development of prejudice, some have argued that developmental decreases and individual differences in prejudice could be partly related to social desirability factors and/or to social learning. In a study which found support for the role of environmental learning, Black-Gutman and Hickson (1996) studied the racial attitudes of three age groups of White Australian children (5-6, 7-9, and 10-12 years of age) via the MRA. Among their findings were that children had different attitudes toward Asians versus Aborigines, and that the negativity of older children did not differ from the youngest group. According to these authors, both of these findings suggest the influence of environmental learning in addition to cognitive factors. Specifically, these authors argued that if prejudice is solely related to cognitive- and social-cognitive factors, then (a) the children should have had similar attitudes toward the two outgroups, and (b) the older children should have had lower levels of prejudice than the younger ones.

In support of this study, Neto and Williams (1997) used a translated version of the PRAM II, rather than the MRA, in their study of 5- and 8-year-old children in Portugal. They found that although all children tended to have a pro-White bias, bias against the dark-skinned target was higher among 8-year-old children than among five-year-olds. These researchers suggested that their findings were more in line with “cultural learning” explanations than with SCD theories.

With regard to the role of social desirability in accounting for lower levels of prejudice, especially in older children, some researchers (e.g., Katz et al., 1975) have argued that perhaps older children are more aware of social norms against expressions of prejudiced attitudes, so that their responses may be influenced by such pressures. In their study of White American second- to sixth-graders, Katz and her colleagues (1975) found that although there were no age differences on a subtle measure of prejudice (i.e., a structured projective test), there were decreases in the negative scores on the questionnaire and social distance measures, which they believed could have been influenced by social desirability factors, in this case Race of Experimenter effects. Prejudice on these two latter measures, but not on the more subtle measure, was found to be higher with same-race than with cross-race experimenters.

A number of studies have attempted to rule out the explanation of social desirability in accounting for lower levels of prejudice in older children (Aboud & Fenwick, 1999; Aboud & Doyle, 1996a; Doyle, Beaudet & Aboud, 1988). Doyle and her colleagues (1988), for example, found that responses to the Children's Social Desirability Scale did not correlate with prejudice (as assessed by a measure of stereotyped ethnic attitudes which is similar to the MRA). Doyle and her colleagues also pointed out that lower levels of prejudice of older children are largely accounted for by increases in the positive evaluations of Blacks, rather than by decreases in the negative evaluations of Blacks which would be predicted by the social desirability hypothesis (Doyle et al., 1988; Doyle & Aboud, 1995). These researchers have also argued that high- and low-prejudice children tend to offer arguments to their peers that are in line with their test scores on the MRA (Aboud & Doyle, 1996a). More recently, Aboud and her colleagues have argued that perhaps a more positive way of interpreting social desirability might be to view it as an increased understanding of fairness and of morals in older children, rather than viewing social desirability as a motivation to please interviewers (Aboud, personal communication; also see Aboud &

Amato, 2001). Similarly, Singh, Choo and Poh (1998) have proposed that perhaps children develop a sense of “fairmindedness” as they grow older, and so may have a tendency to “guard” those responses that may not be in line with this ideal.

### Suggested Directions for Research

The questions examined in the present study stem largely from a consideration of social-cognitive literature on prejudice and stereotyping conducted on both adults and children. In examining such questions, this study follows in the line of studies conducted by researchers such as Bigler and colleagues (e.g., Bigler & Liben, 1993; Bigler, Jones & Lobliner, 1997) and Levy and Dweck (1999), in its aim to “identify points of convergence in findings with adults and children and, in turn, contribute to an integration of developmental and social psychological theory on stereotyping and prejudice” (Levy & Dweck, 1999, p. 1165).

The following is an outline of some of the broad research directions that were considered in the formulation of the questions posed in the present study.

Cognitive content and processes related to prejudice. A review of the social-cognitive literature reveals that much more is currently known about the prevalence and developmental course of racial prejudice in children than about the cognitive content and processes that underlie prejudice-like responses. This is somewhat in contrast to the growing number of studies with adults which have examined the ways in which individual differences in prejudice are related to differences in cognitive content and in the processing of information about others, as well as how differences in cognitive content and in the processing of information influence the evaluation of members of different racial groups (see Hilton and von Hippel, 1996 for review). Due to the gap in the amount of research that has been conducted on adults versus children in this area, a question that remains is whether the methodology used in adult stereotyping research could be adapted for the

examination of children's knowledge structures and of their processing of race-related information.

Based on the research on both adults and children, the current study examines three specific aspects of cognitive content that were considered to need further exploration in children: (a) Children's perceptions of trait variability and expectations of trait prevalence in their own group versus outgroups (cf. Bigler et al., 1997; Bigler, Brown, & Markell, in press), (b) children's behavioural expectations from same- versus cross-race peers, and (c) children's racial stereotyping (i.e., judgment of individual members of racial groups, rather than of racial categories). With regard to cognitive processes related to stereotyping, the current study examined the accessibility of children's race-related stereotypes, via the speed with which they made evaluative decisions about same- and cross-race targets (cf. e.g., Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997).

Factors related to individual differences in prejudice level. In response to a number of recent calls for the study of individual differences in social-cognitive factors related to prejudice and stereotyping (e.g., Aboud & Amato, 2001; Hilton & von Hippel, 1996; Levy & Dweck, 1999; Powlisha, Serbin, Doyle & White, 1994), the current study also examines the impact of prejudice level, as measured by the MRA, on other indices of group perception. As has been suggested previously (e.g., by Aboud & Amato, 2001; Black-Gutman & Hickson, 1996; Levy & Dweck, 1999), the examination of individual differences in the group perceptions of children of the same age, and who are at or beyond the concrete operations stage of cognitive development, is particularly important since it allows us to address why some children maintain higher levels of prejudice despite their more mature levels of relevant cognitive skills.

Relationships between different components of racial prejudice. A review of the relevant literature also points to another area that deserves further examination - the exploration of relationships between the different components of racial prejudice (i.e., the

cognitive, affective, and behavioural) in children. Research to date on both children and adults suggests that the different components of prejudice, such as group perceptions, affect toward outgroup members and discriminative behaviour, may often be independent of one another (see e.g., Aboud & Amato, 2001; Bigler & Liben, 1993; Bigler et al., 1997; Bigler et al., in press; Brown, 1995; Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997; Duckitt, 1992; Esses, Haddock, & Zanna, 1993; Jackson, Hodge, Gerard, Ingram, Ervin, & Sheppard, 1996; Katz, Sohn, & Zalk, 1975; Messick & Mackie, 1989; Powlishta et al., 1994; Stangor, Jonas, Stroebe, & Hewstone, 1996). Furthermore, research with adults has suggested the importance of studying the relationship between even the different cognitive components of prejudice, such as stereotypes, evaluations, and perceptions of variability, as they may also be quite independent of one another (cf. e.g., Stangor et al., 1996). Moreover, research and theory have suggested that the independence of these components may be greater for younger children than for older ones, due to the fact that the prejudice of younger children may have not yet become "crystallized" through the bringing together of the cognitive, affective and behavioural components of prejudice (cf. Katz, Sohn, & Zalk, 1975).

Dovidio and colleagues (1997) have recently argued that the question should not be which level (e.g., cognitive or behavioural) represents a White person's "true racial attitude" but rather "which aspect of an attitude best predicts which type of behaviour" (Dovidio et al., 1997, p. 519). Indeed, in their own study of adults, these researchers found that different components of attitudes differentially predicted race-related outcome measures (Dovidio et al., 1997).

The above findings have a number of implications for the measurement of racial prejudice in children. In the context of the present study, they led to the examination of the validity of the MRA. More specifically, this study examines the relationship of the MRA to other measures of group perception, as well as to children's expressed preferences for

same- versus cross-race peers. This study also asks (a) whether differences in levels of prejudice are meaningfully related to children's responses on other race-related measures (both cognitive and affective/behavioural), and (b) whether some types of scores on the MRA (e.g., Bias vs. Counterbias scores, or Positive-Black vs. Negative-Black scores) are more consistently and strongly correlated than others to measures of group perception and to measures of peer preference.

Based on the suggestion of Dovidio and colleagues (1997) that the relationship between the different components of prejudice may partly depend on the way in which these components are measured (Dovidio et al., 1997), this study also examines (a) interrelationships between the different cognitive components of prejudice (e.g., stereotyping vs. perception of group variability), (b) interrelationships between different measures of peer preference (e.g., expressed liking for known vs. unknown peers), and (c) relationships between measures of group perception and children's expressed preferences for cross-race peers. Because previous research indicated that the formation of cross-race friendships may be affected by factors other than race (Boulton & Smith, 1996), such as by the individual characteristics of peers, the current study looks at children's expressed preferences/liking for same- and cross-race peers, rather than their friendships.

#### Specific Goals of the Current Study

Overall, a consideration of the literature extant led to the examination of whether children categorized as Higher- and Lower-Prejudiced on the MRA would differ in their (a) stereotypic judgments about individual members of target groups, (b) behavioural expectations from White and Black unknown peers, (c) expectations of trait prevalence and of trait variance for White and Black groups, (d) accessibility of stereotypes with regard to individual group members, and (e) liking for and behavioural intentions toward same- and cross-race peers. This study also examined the relationships between the cognitive and affective/behavioural components of prejudice in children. The following is a more detailed

discussion of the rationale for the specific questions asked in the current study, along with a review of the relevant literature for each question.

I. Measurement of children's stereotyping: Judgments about individual members of groups vs. judgments about groups

A concern which arises from a review of the literature on racial prejudice in children is the extent to which measures of racial attitude rely on category-based versus individuated responses of children to same- and cross-race targets. A common feature of standard attitude measures for children, such as the MRA, is the drawing of children's attention to the category of individuals, rather than to particular individuals belonging to a category. Indeed, a purpose of emphasizing group membership is the elicitation of category-based racial attitudes. The MRA, for example, presents children with rather featureless drawings of individuals who are meant to represent different racial groups and about whom the children are not given any individuating information. As pointed out by Linville (1982), however, a problem with paradigms that provide very little information about the targets beyond their ethnic identification is that they "may actually force subjects to think in terms of categories and generalizations that they might not normally use..." (p. 208). In reality, children, in their daily lives, rarely encounter individuals who are featureless and about whom they do not have any individuating information. At the very least, children tend to encounter other 'real' individuals belonging to various racial groups and tend to learn rather non-diagnostic information about them, such as their appearance or favourite activities.

It is surprising, then, that only a handful of studies have examined how children apply racial stereotypes to individual Black and White targets. In an early study, Banks and Rompf (1973) found that awards given by children to targets who had done equally well on a task were influenced by the race of the targets, with more points awarded to White than to Black game players. In another study, conducted on sixth-grade children, Sagar and Schofield (1980) examined whether children's perceptions of ambiguously



aggressive acts were influenced by race of the actor. The results of this study indicated that while the subjects rated the behaviours of Black actors as more mean/threatening than those of the White actors, race had little effect on the personality ratings of the actors and the targets. Based on their findings, Sagar and Schofield (1980) argued that the technique of rating behaviours (such as being playful or threatening), as opposed to the rating of personalities, may provide “a more sensitive measure of subtle stereotyping tendencies” (p. 596).

In yet another study, Lawrence (1991) examined the effect of socially ambiguous information on children's behavioural and trait perceptions. Six- to nine-year-old children were shown four different scenarios and were asked “Tell me what's happening.” As their measure of trait perception, they asked “Is this a good or bad boy most of the time.” The results of this study indicated that White subjects tested by Black experimenters and Black subjects showed no race-of-character bias.

Bigler and Liben (1993) examined racial stereotyping in four to nine year old White children. Children were asked to recall stories that were either consistent (stereotypic stories) with or inconsistent (counterstereotypic stories) with cultural racial stereotypes. Children were also given two individual difference measures; one measure was the MRA (Doyle and Aboud, 1995), and the other was a test of multiple-classification skills. As predicted, lower degrees of racial prejudice (i.e., lower MRA Bias scores: positive traits assigned to White people and negative traits assigned to Black people) and the ability to classify persons along multiple dimensions were associated with better memory for counterstereotypic stories.

In a more recent study, Corenblum, Annis and Young (1996) showed videos to White and Native children who were in grades one to four. In these videos, White and Native targets were depicted as either succeeding, failing or doing equally well as one another on a task. They found that children's internal versus external attributions about the

causes for success or failure of the targets, their optimistic versus pessimistic predictions about the future performance of the targets, as well as their evaluations of the targets differed according to the race of the targets. When White targets were successful, for example, both White and Native children made more positive evaluations, optimistic predictions about and internal attributions for the task outcome, whereas when Native targets were successful, their success was attributed to external factors.

In contrast to the relative paucity of research with children, racial stereotyping has been examined for a number of decades in research with adults (see e.g., Bodenhausen, Macrae, & Garst, 1998; Esses et al., 1993; Hilton & Von Hippel, 1996), and more recently, the relationship between prejudice measures (which have traditionally relied on category-based responding) and stereotyping measures (which typically ask participants to make behavioural or trait-related attributions to particular individuals belonging to different racial groups) has been examined. Macrae & Shepherd (1991) have argued, for example, that subjects may activate "an entirely different interpretative schema if they [are] provided with categorical or individuating information ..." (p. 237). Indeed, recent findings from the literature on adults suggests that people may respond differently when they are asked to judge individual targets rather than groups. In one study, for example, Van den Heuvel (1992) found that although adult Dutch subjects were more positive to their own group than toward a minority group, they responded more favourably to the behaviour of individual members of this minority group than toward individual Dutch targets (as cited in Dijkster & Koomen, 1996). These are issues that need to be examined much more fully in children. Two goals of the current study were, therefore, to develop a measure which would allow for more individuated judgments to be made regarding same-race versus cross-race targets, and to compare children's trait attributions on this measure to their responses on the MRA, which were presumed to be more category-based.

In an effort to promote the making of individuated judgments (cf. Fiske and Neuberg's, 1990. model), a Stereotyping measure was developed for the purposes of this study which presented children with pictures of actual, but unknown, Black and White peers, and also gave them some non-diagnostic information about these peers. The non-diagnostic information was formulated in a way that could not be easily used by the children to make accurate inferences about an individual's trait or behavioural characteristics (cf. Fiske & Neuberg, 1990). Children were then asked to indicate whether or not they believed each target to have a number of positive and negative attributes. Prior to statement of the hypotheses of the current study, I first present a brief summary of the literature on which the hypotheses were based.

Category-based vs. individuated judgments - Adult literature. Until recently, category-based impression formation was believed to be an inevitable consequence of categorization. That is, it was believed that a perceiver's categorization of a person, either through the existence of a category label or through a set of attributes which cued category labels, would automatically make category-relevant responses more accessible, thus affecting the perceiver's impressions of that person (see Fiske & Neuberg, 1990). Indeed, numerous studies have shown that category labels and their associated schemas play important roles in influencing people's perceptions, memories, and inferences of others (Bargh, 1997; Fazio & Dunton, 1997; Fiske & Neuberg, 1990; Higgins, 1990; Higgins & Bargh, 1987; Higgins & Wells, 1986; Macrae, Milne, & Bodenhausen, 1994a). In the adult literature, research has indicated that once schemas or category labels are cued, they tend to be used to interpret information in a manner that is in line with the expectations about the accessed category, and also tend to promote quicker generation of inferences, as well as, quicker encoding and recall of information (Fiske & Neuberg, 1990; Fiske & Taylor, 1984; Higgins, 1990; Macrae et al., 1994; Taylor & Crocker, 1981; Wyer, Bodenhausen, & Srull, 1984).

Fiske and Neuberg's (1990) continuum model of impression formation explicitly suggests, however, that category-based impression formation is not an inevitable consequence of categorization (see also Bodenhausen et al., 1998 and Fazio's, 1990, MODE model for recent discussions). According to this model, individuals may be more or less likely to form impressions along a continuum which ranges from category-based to individuated ones, depending on the type of information that is available about target persons, as well as on the motivations of perceivers (Fiske & Neuberg, 1990; also see Fiske & Pavelchak, 1986). In other words, both information and/or motivations can cause perceivers to make more effortful and individuated evaluations of others, and in so doing cause perceivers to "override" their initial categorizations (Fiske & Neuberg, 1990; Fiske & Taylor, 1991; also see Macrae, Stangor, & Milne, 1994b).

Fiske and Neuberg (1990) have outlined several "informational conditions" and motivational factors which can influence the movement of a perceiver's impression formation along the continuum of category-based to individuated impressions. One informational condition which, according to these researchers, promotes the making of category-based impressions is when individuals encounter category labels which represent relatively strong stereotypes in combination with attributes which are nondiagnostic. In support of their model, Fiske and Neuberg (1990) refer to a number of studies which have found that strong category labels, such as gender and ethnicity, encourage category-based responses more than do less well-established category labels (cf. Higgins & Bargh, 1987; Ruble & Stangor, 1986), and that irrelevant information tends to be unable to undercut the category-based stereotypes which are associated with strong category labels (e.g., Bodenhausen & Wyer's, 1985, study with ethnicity; see Fiske & Neuberg, 1990 for review). Individuated impression formations, on the other hand, are more likely to occur when non-diagnostic information is combined with relatively weak categories (see e.g. study by Nisbett, Zukier, & Lemley, 1981). That is, some stereotypes can be "diluted" by

the provision of individuating information. Typically, these are not gender or racial stereotypes which tend to be stronger (Fiske & Neuberg, 1990).

Motivations of perceivers also play an important role in Fiske and Neuberg's (1990) model. These motivations include self-presentation to a third party and personal values. According to these researchers, such motivations "elicit within the perceiver a goal of forming more accurate impressions" (Fiske & Neuberg, 1991, p. 38) and, in so doing, leads them to make use of more individuating processes.

Hypotheses of the current study regarding racial stereotyping. Fiske and Neuberg's (1990) model, along with the literature reviewed above, have a number of implications for the assessment of stereotyping in children. One implication is that children's attributions of traits to Black and White targets may be different when they are given some individuating information about those targets, than when they are only given category-based information. It was with this implication in mind that a Stereotyping measure was designed for this study as a way of presenting children with Black and White targets who would appear to be more "realistic" than those presented on attitude measures such as the MRA. As mentioned earlier, the Stereotyping measure presented children with pictures of real, but unknown, Black and White peers, along with some nondiagnostic information about each peer. The first question of interest was the nature of the relationship between children's responses on this measure, which had been designed to allow for more individuated judgments, and their responses on the MRA, which were presumed to be more category-based. Due to the strong nature of racial categories, one might reasonably predict that the provision of non-diagnostic information would not have a diluting effect on the category-based evaluations of children. That is, one might predict that children's judgments on the Stereotyping measure would be category-based, even in the presence of individuating information. If so, one might predict a significant, positive relationship between children's responses on the Stereotyping measure and the MRA. That

is, a high correlation between the MRA and the Stereotyping measures would be an indication that the two measures tapped similar judgment mechanisms, but that a low, nonsignificant, correlation would be an indication that they tapped different processes (such as, categorization vs. individualization).

The above prediction assumes, however, that racial categories are equally and highly salient for all subjects and/or that all individuals are similar in their motivations to use individuating information. There has been increasing evidence in the adult literature, however, that there are individual differences in the relative accessibility of race as a categorizing principle (see e.g., Fazio & Dunton, 1997; Higgins, 1990; Locke, MacLeod & Walker, 1994 and Stangor, Lynch, Duan, & Glass, 1992), as well as individual differences in the motivations of individuals to use individuating information, such as differences between high and low prejudice individuals (e.g., Monteith, 1993). If such differences exist for children, then one could argue that high and low prejudice children may differ in the extent to which they make use of the individuating information, such as was provided on the Stereotyping measure in the current study.

It was, therefore, reasoned that a child who has a higher chronic accessibility of race as a basis of making inferences, or who is less motivated to individuate (such as perhaps a child with high levels of prejudice), may be more likely to make category-based inferences and/or less likely to pay attention to individuating information, than a child who has a lower chronic accessibility of race or who is more motivated to individuate (e.g., due to his or her low-prejudiced personal values). The responses of the first child might, therefore, be predicted to be highly related to his or her responses on the MRA measure, which is presumed to elicit category-based evaluations. The second child, on the other hand, may be likely to pay attention to the individuating information and to allow for this information to dilute or undercut the category-based judgments. The responses of this child could, therefore, be predicted to differ more greatly from his or her responses on the

MRA than the former child. In other words, the Stereotyping measure and the MRA were predicted to be more highly correlated for Higher-Prejudice than for Lower-Prejudice children.

The second question of interest was whether children's positive and negative attributions to the individual Black and White targets on the Stereotyping measure would vary as a function of their prejudice level on the MRA. It was predicted, for example, that Higher-Prejudice children would make more negative attributions to Black targets than to White targets, and more positive attributions to White than to Black targets. Lower-Prejudice children, on the other hand, were predicted to attribute similar amounts of positive and negative attributes to both White and Black targets.

## II. Measurement of Expectations of Trait Prevalence and Perceptions of Within-group Trait Variance

Studies on stereotyping and prejudice in both children and adults have traditionally focused on the prototypical traits that characterize group members. More recently, however, studies have begun to examine the beliefs of people regarding the commonality of different traits among group members, that is, the ways in which people perceive variability and make distinctions among members of a group (Higgins & Wells, 1986; Linville, 1982; Linville & Fischer, 1993 & 1998; Linville, Brewer, & Mackie, 1998; Linville, Fischer & Salovey, 1989; Linville, Salovey & Fischer, 1986; Park & Rothbart, 1982; Smith & Medin, 1981). Linville and her colleagues refer to such perceptions as the degree of "attribute differentiation" (Linville et al., 1989, p. 165).

Because the vast majority of the research in this area has been conducted with adults, much less is known about children's perceptions of similarities of group members with regard to traits. Even less is known about the relationship of such perceptions to individual differences in children's racial attitudes. Indeed, a review of the literature on children reveals no studies which have assessed the degree to which children believe that

members of ethnic or racial groups resemble one another with regards to certain traits or behavioural attributes. A goal of this study was, therefore, to examine two related aspects of attribute differentiation in children's with regard to racial groups: Children's expectations of the prevalence of traits within groups and children's perceptions of the variability of traits within groups. A further goal was to examine the relationship of such perceptions to individual differences in children's racial attitudes, as measured by the MRA.

Attribute differentiation: The adult literature. According to the Multiple exemplar models of schemas (see e.g., Linville & Fischer, 1993; Linville et al., 1989), when individuals encounter a number of new exemplars of a category, they not only extract information about the features of category members, but also encode information about the distribution or commonality of the category features. Research on adults has so far lent support to this theory (e.g., Jackson, Hodge, Gerard, Ingram, Ervin & Sheppard, 1996; Linville & Fischer, 1998).

Research on adults has also demonstrated that when information about variability is accessed from memory, it tends to influence the inferences, evaluations and behaviours of individuals toward group members (Doise, 1978; Linville, 1982; Linville & Fischer, 1993; Linville & Fischer, 1998; Linville & Jones, 1980; Park, Judd, & Ryan, 1991; Park & Hastie, 1987; Quattrone & Jones, 1980). The outgroup homogeneity effect is an example of a way in which perceptions of variance can bias inferences about groups and group members. This effect refers to the tendency of individuals to perceive members of the outgroup to be more homogenous in their characteristics than the members of the ingroup (i.e., "we're all different" but "they are all alike"). A related effect is the perception that members of one group are necessarily different from members of another group, and that they differ along important underlying dimensions (for both effects see Doise, Deschamps, & Meyer, 1978; Judd & Park, 1988; Linville, 1982; Linville & Fischer, 1998; Linville et al., 1982; Park & Rothbart, 1982; Tajfel & Wilkes, 1963; Quattrone & Jones, 1980).



The perception of group homogeneity has a number of consequences with regard to the categorization of group members, as well as with regard to the inferences that are made about group members. For example, the more that group members are perceived to resemble one another with regards to a characteristic, the less probable it is that distinctions can be made between category members on the basis of that characteristic (Linville et al., 1989). Also, when groups are perceived as homogeneous, individuals are more likely to classify a typical new target as an instance of that category, and to apply stereotype-consistent attributes to that target (Biernat and Vescio, 1993; Fiske & Neuberg, 1990; Messick & Mackie, 1989). Furthermore, when groups are perceived as homogeneous, people are more likely to generalize stereotype-consistent, but not counter-stereotypic, information about an individual to the group as a whole (Parke & Hastie, 1987).

Perceptions of variability have also been found to be related to more negative evaluations of outgroup members and to more positive evaluations of ingroup members (Brewer & Silver, 1978; Hilton & von Hippel, 1996; Messick & Mackie, 1989; Perdue, Dovidio, Gurtman & Tyler, 1990). Studies using minimal-group paradigms have found that such effects exist even when ingroup status is based on rather arbitrary criteria (for reviews see Hamilton & Trier, 1986; Hilton & von Hippel, 1996; Messick & Mackie, 1989; for original theory see Tajfel & Turner, 1979; Tajfel, Flament, Billig, & Bundy, 1971; for recent studies with children see Bigler et al., in press and 1997). Linville and her colleagues have argued, however, that the outgroup homogeneity bias is somewhat independent of ingroup favouritism (Linville & Fischer, 1998) and that evaluations of outgroups are likely to be more extreme, but not necessarily more negative (Linville, 1982).

One model which offers explanations for (a) the lower differentiation of outgroup versus ingroup members, (b) more extreme evaluations of outgroup members, and (c) the relationship between differentiation and evaluation is Linville's (1982) "complexity-extremity" model (for other explanatory models for the outgroup homogeneity effect see

Kashima & Kashima, 1993 and Park & Judd, 1990). According to Linville and her colleagues (e.g., Linville, 1982, Linville et al., 1989), people have more complex cognitive representations of their own group than of other groups. A factor that leads to greater complexity is greater familiarity with the ingroup, by virtue of having encountered more ingroup than outgroup members. A result of these numerous encounters with ingroup members is that people end up storing more exemplars of the ingroup than of the outgroup and, in so doing, end up (a) perceiving members of their own group as more differentiated from one another than members of the outgroup, and (b) thinking in a more complex fashion about ingroup members than about outgroup members. According to Linville (1982), the greater complexity with which in-groups are represented mentally lessens the likelihood that individuals will make extreme judgments about in-groups, whereas, the lesser complexity with which out-groups are represented will increase the likelihood that more extreme judgments will be made about the outgroup. Linville and her colleagues have since found some support for the above model through a series of experiments on adults (see Linville & Fischer, 1998 for review).

Within the adult literature, attribute differentiation (or perceived variability of features or traits) has been operationalized in a number of ways, including the use of range, standard deviation, perceived differentiation of a feature, and the extent to which members of a group are perceived to display features of a group (see Linville & Fischer, 1998). This latter method of measurement is based on the means of distributions.

Research on children. Considering that the literature with regard to the consequences of perceived trait variability is quite limited even for adults, it is not surprising that very little is known about children's perceptions of variability, especially with regard to racial groups. Even less is known about the relationship of perceived trait variability to children's racial attitudes. Nevertheless, the available literature on children indicates that (a) social categorization plays an important role in the generation of inferences

even in young children (see e.g., Gelman, Collman, & Maccoby, 1986; Rholes, Jones & Wade, 1988; Rholes & Ruble, 1984; Serbin, Powlisha, & Gulko, 1993) (b) children expect group membership to connote similarity in underlying dimensions (see Aboud, 1988), (c) children perceive differences in the variability of traits of ingroup and outgroup members (e.g., Bigler, 1995; Bigler, Brown, & Markell, in press; Bigler et al., 1997), (d) children perceive more similarity within races than between races (e.g., Doyle & Aboud, 1995) and (e) that such perceptions are related to their evaluations of ingroup and of outgroup members (Aboud & Mitchell, 1977; Bigler, 1995; Bigler et al., in press; Bigler et al., 1997; Doyle & Aboud, 1995; Katz et al., 1975).

Unfortunately, however, previous studies on children's perceptions of variability within and between racial groups have predominantly, if not exclusively, focused on children's perceptions of "intragroup similarity" (as termed by Linville et al., 1989), that is, on children's overall judgments of the extent to which the members of a given group resemble one another, rather than on their perceptions of attribute differentiation (e.g., Doyle and Aboud, 1995; Katz et al., 1975). Furthermore, previous studies have asked children to judge intragroup similarity based on visual cues, rather than on trait attributions (for an exception see Phinney, Ferguson, & Tate, 1997, who asked minority adolescents to think about a certain group at school and say how many kids are like each description).

In a study which examined intragroup similarity based on visual cues, Doyle and Aboud (1995), assessed perceptions of similarity between and within races by asking children to rate the similarity of pairs of colour photographs of same-race and different-race same-sex children. Children were given a pair of photos at a time and were asked to place them at a distance from one another that represented how similar or different they judged them to be. These researchers found that perception of between-race similarity was consistently related to increases in age, to lower scores on the PRAM II, and to increases in MRA counterbias scores. They also found that perception of within-race similarity was

associated positively with individual differences in prejudice at each age. These results supported earlier findings of a study by Katz and her colleagues (1975), who found that individual and developmental increases in the perceptions of between-race similarity and within racial group differences were associated with lower levels of prejudice by sixth grade (Katz et al., 1975). Based on this and other studies, Katz and Zalk (1978) suggested that intervention techniques could be aimed at increasing children's perceptions of differences between group members. In their own study, these researchers trained children to learn individual names of outgroup children (Katz & Zalk, 1978; see Aboud, 1993 and Aboud & Fenwick, 1999 for evaluations of similar intervention programs).

Those studies that have looked at children's perceptions of trait variability (or attribute differentiation), and have related such perceptions to children's evaluations of these groups, have done so with groups that have not been racially based (e.g., Bigler, 1985; Bigler et al., in press; Bigler et al., 1997). A recent study by Bigler and her colleagues (1997), for example, studied children's perceptions of trait variance within- and between-groups, using a minimal group paradigm. Children were divided into two groups, the yellows and the blues. Based on a measure that had been developed for the study of gender stereotyping (Bigler, 1995), Bigler and her colleagues asked children to indicate whether all, most, some, or none of group members possessed certain positive and negative qualities that had been chosen from the PRAM II (Williams et al., 1975b).

Perception of within-group variance was measured by the number of traits of ingroup versus outgroup members that were assigned to "all" or to "none" categories. Perception of variance between groups was measured separately for positive and negative traits. Negative Trait Variance was the number of negative traits that were assigned to the outgroup minus the number of negative traits assigned to the ingroup. Positive Trait Variance was number of positive traits that were assigned to the ingroup minus the number

of positive traits assigned to the outgroup. Higher scores, therefore, represented more extreme evaluations of the outgroup.

Results of the study by Bigler and her colleagues (1997) indicated that the mere division of children into perceptually different group was not sufficient to elicit inter-group bias. Children developed bias only when the groups were perceptually salient and when teachers used such divisions in “functional” ways, that is, labelled the children and organized the environment according to those labels. With regard to children’s perceptions of between-group trait variance, these researchers found that children whose teachers had made functional use of the colours (i.e., children in the experimental conditions) perceived greater variability between the colour groups (i.e., perceived groups to be less similar), than those children in the control condition. Children also perceived greater variability between groups on ratings of positive than of negative traits. With regards to perception of within-group variance, they found that children in the experimental conditions were particularly likely to attribute negative traits to “some” of the members of the outgroup, but to “none” of the members of the ingroup. In general, the children made a greater number of extreme judgments concerning the ingroup than the outgroup, and a greater number of extreme judgments for the negative than for the positive traits. These findings have been replicated by a more recent study by Bigler, Brown and Markell (in press). This latter study found, however, that when teachers made use of the new social categories, only those children who were exposed to information regarding their own group being of a higher status developed ingroup bias, whereas the low status peers did not.

Goals and hypotheses of the current study with regard to expectations of trait prevalence and trait variance. Based on the theoretical and empirical works reviewed above, the current study asked whether children would differ in their perceptions of trait variability for their own versus other racial groups, and also whether such perceptions would be related to individual differences in children’s racial attitudes. Based on the ways

in which attribute differentiation has been operationalized in the past, this study examined two related aspects of attribute differentiation. One was White children's expectations of the prevalence of traits in their own versus other racial groups (cf. Bigler et al., 1997), and the other was their perception of trait variability within groups. Expectations of trait prevalence was measured via children's ratings of the extent to which they believed a group to have each of a number of positive and negative characteristics (from none to all). Children's perceptions of trait variance, on the other hand, was measured by the extent to which children perceived group members to be homogeneous or differentiated with regards to these characteristics (i.e., whether they gave "all/none," "few/many," or "half" ratings). Children who gave more "all" or "none" responses were, therefore, assumed to perceive the most homogeneity within groups, those who gave more "few" or "many" responses were assumed to perceive a moderate amount of homogeneity and those who gave more "half" responses were assumed to perceive the most differentiation between group members. Individual differences in racial attitude were based on children's scores on the MRA.

With regards to children's expectations of the prevalence of positive and negative traits for the White and Black target groups, it was hypothesized that Higher-Prejudice children would expect negative traits to be more prevalent among Blacks than among Whites, and would expect positive traits to be more prevalent among Whites than among Blacks. Lower-Prejudice children, on the other hand, were hypothesized to expect similar levels of prevalence of positive and negative traits among Blacks and Whites. With regards to children's perception of within-group trait variance, it was hypothesized that children would, in general, perceive their own group (i.e., Whites) to vary more with regards to traits than they would the Black group. Nevertheless, it was also predicted that this would be more true of the perceptions of the Higher- rather than the Lower-Prejudice children. That is, Higher-Prejudice children were predicted to perceive much less trait variance for

the Black group (i.e., give more all/none responses than for the White group, but not the Lower-Prejudice children.

I believe the examination of attribute differentiation and its relation to ethnic or racial attitudes in children is important for at least two reasons. First, on a theoretical level, obtaining information on children's perceptions of trait variability will allow us to have a clearer understanding of the cognitive structures which underlie children's ethnic attitudes. As Linville & Fischer (1998) have argued, "Understanding perceived group variability is central to understanding stereotyping" (p. 124). Second, when greater understanding about children's perceptions of trait variability is put together with information on children's racial attitudes, it may allow for a more detailed understanding of these attitudes. It seems reasonable to argue, for example, that a child who believes that "all Black people are friendly" might have a different set of associated beliefs or trait expectancies of that group than a child who believes that "only some Black people are friendly." Current measures of prejudice in children do not, however, enable researchers to distinguish between two such children. Such information might also allow researchers to study the correlates of attribute differentiation, such as its relation to different components of children's racial attitudes in children, as well as to individual differences in prejudice. Hilton and von Hippel (1996), have noted, for example, that "while there has been a substantial amount of research on individual differences in proclivities toward stereotyping and prejudice [in adults]...almost no research has taken advantage of the central findings of the stereotyping literature and searched for individual differences in the tendency to...perceive outgroup homogeneity" (p. 263). This is even more true for research on children.

### III. Assessment of Children's Readiness to Make Evaluative Decisions About White versus Black Targets: A Response-Latency Measure of Stereotype Accessibility

Children's social schemas. The current study adopts the view that racial categories

and stereotypes, like social schemas (cf. Fiske & Taylor, 1991; Higgins, 1990), not only contain information about the characteristics, traits and/or behaviours of members of certain groups, but also contain theories about how these attributes are related to one another (Hamilton & Sherman, 1994; Hamilton, Stroessner, & Driscoll, 1994; Higgins, 1990; Hilton & von Hippel, 1996; Linville, 1982; Macrae & Shepherd, 1991). Indeed, stereotypes are believed to act as preexisting theories which help individuals to selectively attend to, interpret, elaborate on, and recall information in a manner that tends to be in line with those previous expectancies (Darley & Fazio, 1980; Linville, 1982; Macrae et al., 1994a). Selectivity in attention to and retrieval of expectancy-congruent information (see e.g., Bodenhausen, 1988; Macrae, Hewstone, & Griffiths, 1993; Srull & Wyer, 1989; Stangor & Duan, 1991) appear to be particularly true in cases where the target's actions are ambiguous (Darley & Fazio, 1980; Macrae et al., 1994a, b) and/or when task demands are heavy (Gilbert & Hixon, 1991; Macrae et al., 1994a). Under such circumstances, stereotypes tend to fill in the gaps in the knowledge base of perceivers.

Research on children's social-cognitive development indicates that social schemas are present at an early age (see e.g., Berndt & Heller, 1986; Bukowski, 1990; Gelman, Collman, & Maccoby, 1986; Lawrence, 1991; Martin & Little, 1990; Rholes & Ruble, 1984; Younger & Boyko, 1987). Research on preschoolers has shown, for example, that children as young as four to five years of age can overlook appearances when drawing inferences on the basis of category membership, presumably by expecting category members to share non-obvious properties (Gelman et al., 1986). Gelman and her colleagues have shown that preschoolers are able to infer properties from categories, such as gender, and seem to expect that a "subject's category provides a fundamental clue to its behaviour and internal structure" (cf. Gelman et al., 1986, p. 397). According to Martin and Halverson (1981), two conditions are necessary for children's schema acquisition, (a)



the ability to categorize on the dimension of interest, and (b) knowledge that the person belongs to one category and not the other.

Trait concepts do not, however, typically play a central role in young children's (i.e., below 5-6 years of age) conceptions of people (Flavell, 1985; Rholes, Newman, & Ruble, 1990). Social cognitive changes emerging somewhere between 7-10 years of age (c.f., Rholes et al., 1988; Rholes et al., 1990; Rholes & Ruble, 1984) are believed to permit children to increasingly understand their own and other's behaviour according to stable patterns of behaviour and personality characteristics. Once children have developed dispositional concepts, they are more able to efficiently organize information about people and to translate observed behaviours into their trait meanings, both of which are considered to be requirements for understanding and predicting social interactions with others (Newman, 1991).

Higgins and Wells (1986) have argued that "age-related changes in social life phases," such as changes in children's social agents, tasks, social roles, and social relationships, "affect both availability and accessibility of social constructs that are used in making social judgments and inferences" (1986, p. 205). Similar arguments have been made by a number of other researchers. Newman (1991), for example, has commented that with repeated experience, trait inferences or social judgement processes may become more effortless and more spontaneous. Similarly, Sullivan (1953) argued that the speed with which children are exposed to people of different types, especially once they enter preschool and elementary school, would make it difficult for them not to create classification systems and social schemas for people.

Within the area of stereotyping, much more research has been conducted on children's use and development of gender schemas (eg. Berndt & Heller, 1986; Gelman & Markman, 1985, cited in Gelman, Collman, & Maccoby, 1986; Martin & Little, 1990) and on children's dispositional or trait-like categorizations (eg. Bukowski, 1990; Rholes &

Ruble, 1984; Younger & Boyko, 1987; Younger, Schwartzman, & Ledingham, 1985) than on children's racial stereotypes and prejudice. Moreover, a review of the literature on racial prejudice in children reveals that much more is known about the prevalence of prejudice and of its developmental trends than about the social-cognitive processes underlying children's racial attitudes. This is in somewhat of a contrast to the growing number of studies on adults which have begun to examine cognitive processes involved in prejudice and stereotyping.

One aspect of cognitive processes which has received increased attention in the adult literature is the role of the accessibility of stereotypes, or of evaluative traits, in making judgments about racial categories (e.g., Devine, 1989; Hilton & von Hippel, 1996). Accessibility, in the current context, refers to the readiness with which stereotypes or trait-related constructs become available for use in processing of information (cf. Higgins, 1990).

Over the years, stereotype accessibility has been measured in a variety ways, such as through the assessment of the type of information that first comes to mind (e.g., Devine, 1989), or the ways in which ambiguous situations are interpreted (e.g., Lawrence, 1991; Sagar & Schofield, 1980). Increasingly, however, studies on cognitive processes related to stereotyping in adults have turned to the use of response latency paradigms. A review of this literature reveals two major reasons for this shift: the need for more direct measures of stereotype accessibility (e.g., Diehl & Jonas, 1991; Dovidio, Evans, & Tyler, 1986; Fazio, Jackson, Dunton, & Williams, 1995; Locke et al., 1994; Macrae & Shepherd, 1991; Zarate & Smith, 1990), and the need for more implicit or subtle measures of prejudice (e.g., Bassili, 1996; Dovidio & Gaertner, 1991, 1993, 1997; Dovidio et al., 1997; Greenwald & Banaji, 1995; von Hippel, Sekaquaptewa, & Vargas, 1997; Wittenbrink, Judd, & Park, 1997).

Within the area of racial stereotyping, studies using response latencies have generally assumed that stereotypes contain information about racial groups and that such information must be activated before it can be applied (see Hilton & von Hippel, 1996). They have also assumed that since race appears to be capable of automatically activating associated stereotypes (e.g., Devine, 1989; Dovidio et al., 1986; Hewstone, Hantzi, & Johnston, 1991; Fiske & Neuberg, 1990; Stangor, Lynch, Duan, & Glass, 1992), traits that are more closely associated with certain stereotypes will be more easily or quickly accessed in memory, and will thus be more likely to be used to form impressions of others (cf. Higgins & King, 1981; Gaertner & McLaughlin, 1983; Wyer & Srull, 1981).

Findings from such studies have so far indicated that the activation of race-related information can facilitate the application of stereotype-consistent characteristics (e.g., Dovidio, et al., 1997; Fazio & Dunton, 1997; Stroessner, 1996) and that individual differences in prejudice level may be related to differential activation of racial stereotypes or of racial categories (e.g., Kawakami, Dion, & Dovidio, 1998; Lepore & Brown, 1997; Locke et al., 1994; Zarate & Smith, 1990).

In contrast to the research on adults, very few studies have, to date, examined the accessibility of children's racial stereotypes. Indeed, I know of only three early studies (Cantor, 1972; Cantor & Paternite, 1973; Verna, 1982) which attempted to directly assess the accessibility of children's evaluative traits in relation to "Black" versus "White" targets via the assessment of response latencies. Other studies which have examined accessibility have done so more indirectly, such as through children's interpretations of ambiguous scenarios involving white versus black actors (Sagar & Schofield, 1980), or through children's memory of stereotypic and counterstereotypic information (Bigler & Liben, 1993).

Considering this gap in the literature, a goal of the current study was to examine children's accessibility to race-related information as a basis of making judgments about

same versus cross-race targets. A further aim was to examine the relationship of such accessibility to individual differences in children's racial attitudes, as measured by the MRA. In this study, schema accessibility was inferred via the measurement of the time that it took for children to make decisions about whether certain traits or behaviours belonged to White and Black unknown peers (i.e., targets). The more specific research questions were (a) whether children, like adults, would have differential response latencies in making decisions about negative versus positive trait information for White versus Black targets, and (b) whether children's readiness to apply such traits to same- versus cross-race targets would vary according to their prejudice scores on the MRA.

In order to provide a framework for the current questions and hypotheses, a brief background is first provided with regard to theories and research linking the activation of knowledge structures to racial stereotyping and prejudice.

Role of stereotype accessibility. Previous research on both children and adults has indicated that some social categories, such as race, sex, physical appearance, social status and age, tend to be stronger than others in their power to mediate the processing of information in person perception. Such social categories have been found to be highly salient, highly accessible, readily encoded into memory, assumed by perceivers to be highly informative about personality, and capable of automatically activating associated stereotypes and evaluations (see e.g., Devine, 1989; Dovidio et al., 1986; Gaertner & McLaughlin, 1983; Hewstone, Hantzi, & Johnston, 1991; Hilton & von Hippel, 1996; Locke et al., 1994; Stangor, Lynch, Duan, & Glass, 1992).

Nevertheless, research has indicated that in order for stereotypes to mediate the processing of information, they not only need to be present in the form of stored knowledge and differentiated from other types of stored knowledge (i.e., available), but they also need to be activated, either through temporary (contextual) or chronic (person-related) sources (Higgins, 1990; Wyer & Srull, 1981). As outlined by Higgins (1990),

temporary sources of activation include momentary contextual priming, such as recent activation (also referred to as the “priming effect”) and frequent activation.

A vast number of studies on adults, and to a lesser extent on children, have indicated that the activation of social categories or of stereotypes tends to increase the speed, ease and efficiency of the processing of stereotype-relevant information by influencing (a) the kinds of information that perceivers encode, (b) the manner in which information is interpreted, (c) the rapidity with which trait or behavioural inferences are made, and (d) the types of information that are recalled and recognized (Biernat & Vescio, 1993; Bigler & Liben, 1993; Bodenhausen, 1988; Devine, 1989; Fiske & Taylor, 1991; Higgins, Rholes, & Jones, 1977; Hilton & von Hippel, 1996; Macrae et al., 1993; Macrae & Shepherd, 1991; Macrae et al., 1994b; Srull & Wyer, 1989; Stangor & Duan, 1991; Taylor & Crocker, 1981; Zarate & Smith, 1990). The tendency of perceivers to interpret the behaviours of others along stereotype- or category-relevant dimensions has been found with both the conscious (e.g. Carver, Ganellin, Froming, & Chambers, 1983; Srull & Wyer, 1979, 1980), and nonconscious (e.g., Bargh & Pietromonaco, 1982; Devine, 1989) activation of social categories (also see Bargh, 1997; Ford, Stangor, & Duan, 1994; Hilton & von Hippel, 1996; Perdue & Gurtman, 1990; Skowronski, Carlston & Isham, 1993).

Unlike the effects of recent activation which are limited in duration, frequently activated constructs have the potential of becoming “permanently primed” (Fiske & Taylor, 1984, p. 176) and of leading to individual differences in chronic accessibility. Individuals who have chronic accessibility of certain constructs will more readily use these constructs to process information about others (Higgins, King & Mavin, 1982; also see Higgins Rholes & Jones, 1977). Higgins (1990) has suggested that one source of chronic differences in accessibility differences may be the frequency with which certain constructs are activated through parental instruction.

There is accumulating evidence to suggest that chronic individual differences in construct accessibility tend to function like temporary differences in construct accessibility, are relatively stable over time, show resistance to situational factors, and influence person perception and social behaviour (Higgins, 1990; Higgins & King, 1981; Perdue, Dovidio, Gurtman & Tyler, 1990). A number of studies on adults, for example, have shown individual differences in the accessibility of stereotypes and of certain social categories (Bargh & Thein, 1985; Bargh & Prato, 1986; Fazio et al., 1995; Higgins, Rholes, & Jones, 1977; Kawakami et al., 1998; Lepore & Brown, 1997; Locke et al., 1994; Macrae & Shepherd, 1991; Stangor et al., 1992; Wittenbrink et al., 1997; Zarate & Smith, 1990). Research has also indicated that such chronic individual differences are more likely to be revealed in some circumstances more than others, such as when social input is either "ambiguous," "vague" or "impoverished" (Higgins, 1990, p. 308). As pointed out by Higgins (1990), such types of input are typically insufficient to activate available social constructs and to have them applied, so that higher prior levels of excitation (either from contextual or person sources) are needed for activation and application.

Measurement of accessibility via response-latency paradigms. In the past, studies which have measured construct accessibility via response-latency paradigms have assumed that if social schemas influence the speed, ease and efficiency of social information processing, then such influences should be reflected in the time taken by perceivers to respond to stereotype-relevant information. Differences in response latencies are not, therefore, considered to be necessarily important in themselves, but are assumed to reflect aspects of cognitive representations (e.g., Higgins et al., 1977; Zarate & Smith, 1990). For example, similarities in the speed with which individuals respond to features of a social schema have been considered to reveal associations between those features (Dovidio et al., 1986; Deihl & Jonas, 1991; Gaertner & Mc Laughlin, 1983), and features that are more closely associated to a social schema have been predicted to be more readily applied to tasks

which call for the use of stereotype-relevant information than features that are less closely associated (e.g., Dovidio et al., 1986; Diehl & Jonas, 1991; Locke et al., 1994). Such associated features may also be evaluative in nature (Dovidio et al., 1986; Fiske & Pavelchack, 1986). Based on such assumptions, researchers have argued that response-latency paradigms offer a more direct measure of construct accessibility than do other methods (see e.g., Fazio et al., 1995 for a "pipeline" analogy).

A large number of priming studies which have used response-latency paradigms with adults have so far indicated that when social categories or stereotypes are activated, either through temporary or chronic sources, they tend to facilitate the processing of schema- or stereotype-relevant information (for gender stereotyping see Banaji & Hardin, 1996; for effect of ageism see Perdue & Gurtman, 1990; for effect of ingroup/outgroup status see Perdue et al., 1990; for effect of race/nationality see Diehl & Jonas, 1991; Dovidio, Evans, & Tyler, 1986; Dovidio et al., 1997; Fazio & Dunton, 1997; Fazio et al., 1995; Gaertner & McLaughlin, 1983; Stroessner, 1996; for reviews see Bargh, 1997 and Hilton & von Hippel, 1996).

In the area of prejudice, most of the studies which have used response-latency paradigms have stemmed from two theoretical accounts of how low-prejudiced responses are determined: those focusing on the role of the differential activation of the content of stereotypes (Fazio, Jackson et al., 1995; Dovidio et al., 1997; Dovidio et al., 1986; Gaertner and Mc Laughlin, 1983; Locke et al., 1994), versus those emphasizing the role of inhibition of automatic evaluations (e.g., Devine, 1989; Dunton & Fazio, 1997; Monteith, 1993; Zuwerink, Devine, Monteith, & Cook, 1996).

As an example of a study that looked at the differential activation of racial stereotypes with adults, Dovidio, Evans, & Tyler (1986) assessed the effects of both stereotypic association (i.e., trait related either to Whites or to Blacks) and favorability of traits (i.e., positive or negative) on the processing of information about 'Blacks' versus

'Whites.' Subjects were first presented with racial categories (i.e., the words "Whites" and "Blacks") as primes, and were then presented with positive and negative stereotypic traits (i.e., adjectives) as test words. They were asked to respond as quickly as possible as to whether a given characteristic could "ever be true" or was "always false" of a given category. The response-latencies of the subjects were recorded. These researchers found that subjects responded more quickly to traits most often associated with Whites (e.g., "ambitious" and "practical") following the White prime than the Black prime, and responded more quickly to traits most often associated with Blacks (e.g., "musical," "lazy" and "imitative") following the Black prime than the White prime. Interestingly, subjects had faster reaction times to positive than to negative traits both after a White and a Black prime. Based on these findings the authors proposed that although the racial primes led to the faster processing of stereotype-consistent traits, the subjects appeared to have a greater willingness to attribute positive traits than negative traits to both represented racial groups.

In a more recent study which used a response latency paradigm to examine the differential activation of racial stereotypes in adults, Dovidio, Kawakami, Johnson, Johnson, & Howard (1997) used faces of Whites and Blacks as primes, as opposed to the majority of previous studies which had used either evaluative stereotypes or words as primes. Consistent with previous studies, however, they found that subjects responded faster to positive words following White primes than following Black primes. They also found that, whereas self-reported (explicit) racial attitudes primarily predicted the relative evaluations of Black and White interaction partners, the response latency measure of implicit attitude primarily predicted differences in nonverbal behaviours (blinking and visual contact) toward interaction partners.

A number of other studies on adults have found that differences in levels of prejudice may be related to individual differences (a) in the activation or inhibition of stereotypes (e.g., Dunton & Fazio, 1997; Kawakami et al., 1998; Lepore & Brown, 1997;



Locke et al., 1994; Monteith, 1993; Wittenbrink et al., 1997) and (b) in the tendency to categorize by race (e.g., Fazio & Dunton, 1997; Stangor et al., 1992; Zarate & Smith, 1990). In one study, for example, Monteith (1993) found support for her prediction that the violation of low-prejudiced attitudes in low-prejudiced subjects (in this case toward gays) would lead to self-directed negative affect (or "compunction"), which would, in turn, lead to the inhibition of prejudiced responses, so that less prejudiced responses could be made instead. Monteith (1993) also predicted that this type of inhibition would lead to the slowing of their responses. The findings of this study lent support to Devine's theory (1989) and earlier findings with regard to prejudice toward Blacks (also see Zuwerink et al., 1996).

More recently, Dunton and Fazio (1997) directly measured the motivation of individuals to control prejudiced reactions toward Blacks and found that it predicted the responses of both motivated and less motivated individuals on explicit (self-report) measures of prejudice, but not on unobtrusive measures of prejudice. More specifically, the self-report measures of those who were less motivated to control their prejudiced responses were found to be consistent with their automatically activated negativity toward Blacks on the unobtrusive measure, whereas, those who were more motivated expressed less prejudice on self-report measures, even though they also had automatic activation of negativity toward Blacks on the unobtrusive measure.

In another study, Kawakami, Dion, & Dovidio (1998) examined relationships between racial prejudice and the endorsement and activation of cultural stereotypes. They found that high-prejudice subjects endorsed cultural stereotypes to a greater extent than low-prejudice subjects. With regard to stereotype activation, they found that the Black category facilitated stereotype activation under both controlled and automatic processing conditions for high-prejudice subjects, whereas, there was no differential activation for stereotypes, relative to nonstereotypes, as function of category labels, under either

processing conditions, for low-prejudice subjects. Overall, however, these researchers found that stereotype activation was significantly correlated with individual differences in stereotype endorsement.

The finding that low- and high-prejudice individuals may have different stereotype activation as result of the priming of racial categories has also been supported by Lepore & Brown's (1997) study with adults. These researchers proposed that although the content of racial stereotypes may be the same for high- and low-prejudice individual, there may be prejudice-related differences in the strengths of associative links with racial categories. Consistent with their proposal, they found that when only the racial category was primed (rather than the stereotype), high-prejudice subjects showed evidence of automatic negative stereotype activation, whereas low-prejudice showed a tendency for the activation of positive stereotypes. When stereotypes were primed, however, both high-and low-prejudice subjects had comparable levels of stereotype activation.

Other studies have indicated that more highly racially prejudice individuals may have a relatively higher chronic readiness to categorize by race as opposed to other possible categories (e.g., Fazio & Dunton, 1997; Stangor et al., 1992; Zarate & Smith, 1990). In support of an earlier study by Zarate and Smith (1990), for example, Stangor and colleagues (1992) found that although temporary manipulations were not effective in changing the tendency of individuals to categorize by race and sex, more highly racially prejudiced individuals used race as an independent category to a greater extent than did more egalitarian perceivers. The findings of this study were more recently supported by Fazio and Dunton (1997) who found that the degree to which race was attitude provoking for individuals increased their tendency to weight race in judging similarity between stimulus persons, whereas their motivation to control seemingly prejudiced reactions tended to decrease this tendency. According to these researchers, "the attention of individuals for whom attitudes were automatically activated in response to Black faces was

automatically drawn to race information, but the individuals motivated to control prejudiced reaction actively resisted weighing race heavily (p. 451).

Studies using Response-Latency Paradigms with Children. Although there have been no previous studies, to my knowledge, which have used response-latencies as a means of assessing the accessibility of children's racial stereotypes, per se, I am aware of three studies which measured response-latencies as a way of assessing the extent to which children experienced "conflict" when asked to choose between Black and White targets. In contrast with the adult literature, the most recent of these studies was conducted almost 20 years ago. In the first of these studies, Cantor (1972) used a "conflict paradigm" with second-graders. The children in this study were presented with pairs of pictures of Black and White unknown peers (W-W, W-B, B-B). They were then read stories and asked to choose the child in each pair which had a particular trait (e.g., smart vs. dumb, polite vs. impolite, liked vs. disliked). Children's reaction times to respond were then recorded. Cantor found that (a) children had longer response latencies on W-W choices than on B-B choices, but this difference was only significant for negative traits, and (b) children took longer to choose between Whites when selecting a "bad" as compared with a "good" boy, whereas they took longer to choose between Blacks when selecting a "good" as compared to "bad" boy. Based on these findings, Cantor (1972) concluded that perhaps subjects found choosing "bad" boy more difficult (conflictual) than choosing a "good" boy when choice was between Whites targets, whereas it was the opposite case when the choice was between two Black targets. Although Cantor's findings were framed within a conflict paradigm, the results may be interpreted as indicating that these children may have had differential activation of evaluative traits with regard to Black versus White targets.

In this same study, Cantor (1972) also found that children who predominantly chose White as good and Black as bad took longer to make decisions involving W-W than B-B pairs (regardless of good/bad distinction), whereas remaining children did not.

According to Cantor, this latter finding implied that “(biased children) found it easier to make judgments regarding Blacks than about Whites, suggesting the presence in them of a stereotypic mode of responding toward blacks.” (p. 1442). Based on the more current research evidence that has accumulated, it may be argued that these differences in “stereotypic mode of responding” may be similar to “chronic individual differences” in accessibility which have since been found to be related to differences in prejudice level in adults. A limitation of this study, however, was that no independent measure of prejudice had been administered to the children.

In a follow-up to Cantor’s (1972) study, Cantor & Paternite (1973) used a similar conflict paradigm, but made some changes, including the use of an automatized apparatus to time response-latencies, the change of verbal descriptive material (i.e., did not use specific characteristics but rather used doing good and being liked vs. doing something bad and being disliked), and the addition of 3rd-graders. Contrary to their expectations, these researchers were unable to replicate the previous results in Cantor’s (1972) study. In their conclusion, they made the following statement: “Whether the earlier conflict findings represent a rather complex fluke or a replicable set of results remains an open question. It would be of great interest to see the conflict paradigm applied to groups of White subjects who, on the basis of independent criteria (for example attitude scale scores), are categorized as highly “prejudiced” or “unprejudiced” toward Blacks” (Cantor & Paternite, 1973, p. 861).

In a third study, Verna (1982) again used a conflict paradigm in order to examine the choice behaviour of White children, but included two independent measures related to racial prejudice, a measure of colour bias and a measure of preference for social distance with White versus Black targets. The colour bias measure was a modified version of the PRAM II, in which children were asked to choose a good or a bad animal out of a pair of black and white animals. The social distance measure required children to place a figure,

representing themselves, at a preferred distance from figures which represented either Black or White individuals. The third-grade children in this study were divided into the “race-preference” and “no race-preference” groups on the basis of their stated preference for Whites or no preferences on the social distance measure. Although Verna found that colour bias and social distance measure were not significantly correlated ( $r = .11$ ), he controlled for colour bias in each of the analyses of the response-latencies. The conflict paradigm consisted of asking children to choose between White (W) and Black (B) male targets, that were either described as being good (g) or bad (b) (e.g., Bg/Wb, Bb/Wb, Wg/Bb, Wg/Bg), as possible play partners.

Verna (1982) found that although the two groups of children did not differ in their choice responses for the black-white pairs (e.g., both groups tended to choose the “good” boy rather than the “bad” boy to play with, regardless of race), they did differ in their response-latencies. More specifically, of those who chose the White boy, the race-preference children took less time to choose between the good-Black/good-White pair than did the no race-preference children. Verna also found some sex differences in the responses of the children. For example, males in the race-preference group took significantly longer to choose between a good-Black/bad-White pair than did the no race-preference males, and also took longer to make choices involving the good-Black/bad-White than the good-Black/good-White pair, whereas, the no race-preference males and females took less time to choose between the good-Black/bad-White than the good-Black/good-White pair. Based on these findings, Verna concluded that “preference for closeness to whites over blacks is indicative of pejorative attitude toward members of the latter race” (Verna, 1982, p. 437).

Although the current study and the one by Verma (1982) share some similarities, such as in their use of response-latency paradigms to study children’s responses to racial stimuli, the age group of the children studied, and their use of independent measures of

racial preference, there are a number of differences which must be pointed out. First, the children in Verna's study were divided into two prejudice groups on the basis of their preferred social distance from White and Black targets, rather than on their trait attributions to such targets. Second, 27% of the children in Verna's study who had responded in a pro-Black/anti-White direction on the social distance measure were left out of the study because "including them in the conflict portion of the study would not have provided for a more meaningful test of the hypotheses" (Verna, 1982). Those tested on the response-latency measure were, thus, those who were either pro-White/anti-Black (i.e., "race-preference" group) or had shown no racial preference. Interestingly, the group that was left out in Verna's study corresponds to children who may have had high Counterbias scores on the MRA, so that we do not know how such children would have responded in Verna's study. Third, the Black and White targets in Verna's study were all boys, even though the participants consisted of both boys and girls. It is not clear, therefore, whether the sex differences obtained in this study were at least partially a result of the potential reaction of girls, versus the boys, to having to choose between two boys as potential playmates. As pointed out by Verna (1982), "the magnitude of the difference in the tendency to approach or avoid white males as opposed to black males [could be] partially overshadowed for the female participants by an additional tendency to avoid males" (p. 445). Fourth, the children tested in Verna's study came from predominantly White schools, with there having been no black children enrolled in any of the third-grade classes from which the children had been drawn. This is in quite a contrast to the multi-ethnic/racial schools from which the children in the current study were drawn. Finally, the findings of the studies reviewed above were largely interpreted by their authors as shedding light on the "nature of children's race preferences" (cf., e.g., Verna, 1982), that is, on the tendencies of children to approach or avoid Black individuals, rather than on the cognitive processes underlying children's attitudes, per se, as is the focus of the current study.

Nevertheless, all three studies reviewed above tell us that response latency paradigms may be promising research tools in the area of racial stereotyping with children, as they have been with adults.

Goals and Hypotheses of the Current Study with regard to Stereotype Accessibility.

The findings of the studies reviewed above raise a number of important questions with regard to cognitive processes underlying children's racially-based judgments. Do children have differential activation of stereotypes when making decisions about Black versus White individuals? Can such differences be measured via response-latency paradigms? Are differences in prejudice level related to (chronic) individual differences in the readiness with which children make evaluative decisions regarding Black and White individuals? These were the main questions that were examined in this part of the study.

Children in the current study were presented with pictures of Black and White unknown peers via a computer. The goal of presenting pictures, rather than words, was the activation of persons rather than labels, as suggested by Powlishta, Serbin, Doyle, and White (1994) (as also used by Cantor, 1972; Cantor & Paternite, 1973; Dovidio et al., 1997; Macrae, Bodenhausen, Milne, Thorn, & Castelli, 1997). The priming was on a conscious level (cf. Carver et al., 1983). To make the task more representative of everyday judgments, children were given a brief "nondiagnostic" description of each target. They were then asked to respond "yes" or "no" on the computer as to whether each target possessed a number of evaluative (i.e., positive or negative) traits or behavioural characteristics (e.g., "Do you think he/she teases others") (see method section for more detailed description of procedure). The readiness with which children made evaluative decisions following either the White or Black targets was assessed through their response latencies. Children's prejudice level was measured via the MRA. In this way it was possible to compare children's responses on an implicit measure (i.e., response latency) with their responses on a more explicit measure of prejudice (i.e., the MRA).

Since the computer had been programmed to measure children's response latencies to questions that had been randomized in order, it did not allow for separate analyses of reaction times related to "yes" versus "no" responses to individual questions. That is, what was analyzed was the time that it took children to make decisions about whether Black and White targets possessed certain positive and negative traits, but not the time that it took children to respond "yes" versus "no" to each question. Also, since both Lower- and Higher-Prejudice children could respond quickly to a question, but for different reasons (e.g., in the case of a question regarding whether a Black target possesses a positive trait, both LP and HP children could respond quickly, with the former responding "yes" and the latter responding "no"), no specific hypotheses were made about possible interactions between the favorability of traits (i.e., positive or negative) and race of targets.

Nevertheless I had hypothesized that the response latencies of children would vary as a function of the race of the individuals (targets) being evaluated. More specifically, I had hypothesized that because of the greater familiarity of White children with members of their own group, they would perhaps make quicker decisions about White targets than about Black targets, and that this would be more true for Higher-Prejudice than for Lower-Prejudice children. Considering that most of the studies in this area had been conducted with adults and with different designs, however, the examination of the response latencies of Lower- and Higher-Prejudice children to positive versus negative traits was largely exploratory.

#### IV. Measurement of Children's Behavioral Intentions Toward and Preferences for Same-versus Cross-Race Peers

A question that arises from the measurement of racial attitudes in children is the extent to which such measures are related to children's behavioural and affective responses toward cross-race peers. The examination of this question is important for the validation of attitude measures, such as the MRA, and for establishing the correlates of prejudiced



responses. Due to the paucity of research in this area, as well as the inconsistency of the findings, it is currently far from clear whether lower levels of prejudice in children are related to preferences for, or better relations with, cross-race peers. Indeed, despite findings of a decrease in prejudice with age (e.g., Doyle & Aboud, 1995), some studies have found that older children tend to exhibit more ingroup preferences in their friendship choices than do younger ones (e.g., Jelinek & Brittan, 1975).

Another question that arises from a review of the literature in this area is the extent to which the use of different peer preference measures results in similar findings with regard to the relationship between children's attitudes and their preference for cross-race peers. We do not know, for example, the extent to which children's responses on peer preference measures vary according to whether they are asked to give their liking ratings for unknown (i.e., hypothetical) versus known (actual) cross-race peers. Furthermore, in the case of stating preferences for unknown peers, it is not yet known whether children's responses are influenced by their beliefs regarding their chances of ever meeting these peers. Other questions which remain to be addressed include whether individual differences in prejudice are related to the types of contact that White children prefer to have with unknown cross-race peers, and whether there are sex differences in children's liking and preference for cross-race peers. These are some of the questions that were examined in the current study. In all cases, hypotheses were made with regard to the responses of children who were categorized as Higher- versus Lower-Prejudice on the MRA. Some of the hypotheses are discussed more fully below.

Relationship between racial attitude and preference for same-versus cross-race peers. How do individual differences in prejudice translate into liking for same- versus cross-race peers? Somewhat surprisingly, only a few studies to date have examined the relationship between racial attitudes and children's preferences for same- versus cross-race peers (e.g., Aboud, 1993; Boulton & Smith, 1993). This is in somewhat of a contrast to

the number of studies that have looked at the prevalence and qualities of children's friendships with same- versus cross-race peers (e.g., Boulton & Smith, 1996; Doyle, 1993; Dubois & Hirsch, 1990; Hallinan & Williams, 1987; Kistner, Metzler, Gatlin, & Risi, 1993; Patchen, 1982; Schofield, 1982) as well as the number of studies that have examined the impact of different kinds of cross-race friendships on the acceptance or rejection of outgroup members (e.g., Dubois & Hirsch, 1990; Goldstein, Koopman, & Goldstein, 1979; Hallinan & Williams, 1987; Moore, Hauck & Denne, 1983; Schofield & Francis, 1982; Singleton & Asher, 1979; Stephan, 1978; Wagner, Hewstone, & Machleit, 1989; Whitley, Schofield, & Snyder, 1984).

To the knowledge of this author, there is currently one study that has looked at the relationship between children's scores on the MRA and their same- and cross-race peer relations. In this study, Aboud (1993) obtained correlations between the scores of fifth-graders on the MRA and their same- and cross-race peer relations. The children in this study were participants in a program designed to reduce racial prejudice. The MRA and peer relations measures were administered before and after the intervention program. The peer relations (same-sex) measures included an assessment of the chums that each child hangs around with, the child's acceptance and rejection of classmates, and the number of mutual friends. The results indicated that positive to Black evaluations and counterbias scores of children on the MRA were significantly related to several of the peer-relations indices, with the positive to Black evaluations having slightly higher correlations. Specifically, both scores were related to (a) having more Black "chums" ( $r_s = .25$  for positive to Black scores and  $.20$  for counterbias scores), (b) having fewer White friends ( $r_s = -.34$  and  $-.26$ ) and fewer white best friends ( $r_s = -.34$  and  $-.24$ ), and (c) lower rejection of Black classmates ( $r_s = -.35$  and  $-.25$ ). Positive to Black evaluations, but not counterbias scores, were also significantly related to having less White chums ( $r = -.20$ ). Furthermore, path analyses conducted on these correlations revealed that attitude measures obtained at

time one were more predictive of peer relations at time two, than the other way around. Aboud (1993) concluded that racial attitudes are likely stronger determinants of peer relations, than peer relations are of racial attitudes.

In another study, Boulton & Smith (1993) assessed racial attitudes indirectly through children's stated preferences for sharing activities with hypothetical cross-race children. These authors found no significant correlations between children's stated preferences and the extent to which they actually selected known peers that belonged to the other racial group as playmates in the playground.

The current study examined the relationship between children's scores on the MRA and their reported liking for both actual and unknown (hypothetical) cross-race peers. It was hypothesized that, across all peer preference measures, children categorized as having Higher-Prejudice on the MRA would give lower liking ratings to cross-race peers than would Lower-Prejudice children, and that Higher-Prejudice children would give higher liking ratings to White peers than to cross-race peers, but that Lower-Prejudice children would not. As a means of addressing further questions with regards to the validity of the MRA, this study also examined the relative strengths of the MRA and the other measures of group perception used in the study in terms of predicting preference for cross-race peers, as measured in various ways. It also examined whether certain component scores (i.e., positive-Black, negative-Black, positive-White, and negative-White scores) or certain indices (i.e., Bias and Counterbias scores) of the MRA would be more useful than others in predicting cross-race peer preferences.

Expressed preferences for hypothetical (unknown) versus actual peers. One way in which the current study differs from Aboud's (1993) study, reviewed above, is that it examines the relationship between children's scores on the MRA and their reported liking for both actual and unknown (hypothetical) cross-race peers. Because future studies may assess children's preferences for unknown peers as an indirect measure of racial attitudes,

as was the case in Boulton & Smith's (1993) study, and because preference for unknown peers may be the only way of assessing preference in racially or ethnically homogeneous classrooms, it might be important to know the extent to which the relationship between the MRA and preference for actual peers resembles the relationship between the MRA and preference for unknown peers. As pointed out by Boulton and Smith (1996), liking for real peers is likely to be influenced by a number of behavioural characteristics that go beyond the categorization of these peers into racial categories. It was, therefore, predicted that children's scores on the MRA would be much more strongly related to their preference for unknown peers than for actual peers.

Preference for unknown cross-race peers: With and without expectation of possible future contact. Another question that was examined in this part of the study was the relationship between two measures that examined preference for unknown cross-race peers; one that merely asked children to rate how much they liked them and another which asked children to rank unknown same- and cross-race peers according to their preferences for having each as a potential "Buddy for the day." The reasoning behind this question was that children may respond differently when their responses have little or no personal consequences, versus when their responses tap their behavioral intentions, such as their willingness for greater involvement with certain targets. In the case of this study, children were led to believe that their ranking choices on the "Buddy-for-the-day" task would have the consequence of possibly being paired up with one of those children for one day. With regard to the relationship between prejudice and ranking, it was predicted that Lower-Prejudiced children would place a higher number of cross-race peers in the top 3 ranks than would Higher-Prejudice children. The relationship between the liking and ranking measures were examined via correlational analyses.

Influence of racial attitude on preference for type of contact with cross-race peers. Although previous studies have not directly examined this question, there is some reason to

believe that individual differences in levels of prejudice may be related to preferences for different types of contact with cross-race peers, or that White children may prefer some types of contact over others when it comes to cross-race peers. In a study of adolescent German children, for example, Wagner and colleagues (1989) found that leisure time contact was significantly related with reduced prejudice towards Turks. In another study of eighth grade children, Schofield and Francis (1982) found that boys and girls differed in the *amount* and *type* of cross-race behaviour. Across both sexes, cross-race interactions tended to be more task-related than within-race interactions which were more social. These researchers argued for the importance of examining the *type* as well as the frequency of interracial contact that takes place in nonacademic settings.

The current study took a small step in examining this question by asking children to rate the extent to which they would like to have various types of contact with unknown cross-race peers (i.e., playing with, being friends with, inviting home, working with at school). It was hypothesized that Higher-Prejudice children would likely give higher ratings to the types of contact that require less intimacy with cross-race peers (such as working with at school) than those requiring more intimacy (such as inviting home), but that this would not be the case for Lower-Prejudice children.

#### Influence of gender on children's preferences for same- and cross-race peers.

Although previous studies have found no sex differences on the MRA, the current study examined whether children's preferences for known and unknown, same-versus cross-race peers would vary as a function of both prejudice level and gender. A number of previous studies have found gender differences in children's preferences for known same and cross-race peers (e.g., Boulton & Smith, 1996; Hallinan & Tiexeira, 1987; Kistner et al., 1993; Schofield and Francis, 1982; Schofield & Sagar, 1977; Urberg, Degirmencioglu, Tolson, & Halliday-Cher, 1995), with the majority of these studies finding girls to have a stronger ingroup preference than boys. Such gender differences have most often been attributed to

difference in the qualities and types of activities that boys and girls typically engage in (e.g., Kistner et al., 1993; Schofield & Francis, 1982), as well as differences in peer networks of boys and girls (e.g., Urberg et al., 1995).

Kistner, Metzler, Gatlin and Risi (1993), for example, examined peer preferences and perceptions of Black and White children attending either majority White or majority Black classrooms. These researchers argued that “the types of play that characterize boys and girls may make cross-race interactions more problematic for girls than for boys. Boys tend to engage in more large-group activities’ thus, they are likely to interact with many of their male classmates. In contrast, girls tend to form small, exclusive friendship groups and have fewer opportunities to interact with many classmates” (p. 446). Indeed, they found that classroom racial minority status (i.e., being in a classroom in which most classmates are of a different race) was associated with peer rejection of girls, but not of boys. That is, both Black and White girls, but not boys, received more negative nominations from peers when they were racial minorities in their classrooms. These findings supported earlier findings of stronger same-race preferences in girls than boys (e.g., Hallinan & Teixeira, 1987; Schofield & Francis, 1982; Schofield & Sagar, 1977).

In a study which examined the types of cross-race interactions engaged in by White boys and girls (13-14 years old), Schofield and Francis (1982) found that boys and girls differed in the *amount* and *type* of cross-race behaviour. More specifically, the cross-race interactions of boys were found to be more mutual (vs. one-sided) than those of girls, and girls showed stronger own-group preferences than boys. Urberg, Degirmencioglu, Tolson, and Halliday-Cher (1995) looked at differences in the structure of peer networks of adolescent girls and boys. This study found that female students were more connected to the peer network than were male students, and that peer networks became more exclusive with increasing grade. This study also found that numeric minorities were usually less connected to school networks than the majority group. If girls are more connected to the

peer networks than boys, and if minorities are less connected to these networks, then one could reason that girls might have less contact with minority students.

Based on such previous findings, it was hypothesized that children in the current study would show a greater preference for known and unknown same-race than for cross-race peers, and that this difference would be greater for girls than for boys. It was also predicted that liking for cross-race peers would vary as a function of prejudice level. The question of whether there would be an interaction between prejudice level and gender in predicting liking for cross-race peers was also explored.

To summarize, then, the expectation throughout this study was that children categorized as Lower- and Higher-Prejudice on the MRA would have significantly differential expectations from, perceptions of, and liking for, Black versus White targets. Additional questions explored in this study concerned the relationships (a) between the various measures of group perception, (b) between the different measures of peer preference, and (c) between the measures of group perception and peer preference.

## Method

### Subjects

140 third-grade children participated in a larger study which examined the racial attitudes of children from various ethnic and racial backgrounds. These children were English-speaking and came from four different elementary schools on the South-Shore of Montreal. Parents gave written consent for the participation of their children (77.7% acceptance rate). Of this sample of 140 children, 5 subjects were excluded due to their absence on at least one of the 2 testing sessions. Of the remaining 135 children, 103 were classified as "White" (51 girls and 52 boys) and 32 were classified as "Non-White" (12 girls and 20 boys) according to information provided by the school and by the children. The "White" category consisted of children who were from European and Middle-Eastern backgrounds, whereas the Non-White category included a number of different racial

groups (see Table 1). For the purposes of the current study, however, only the data for the 103 white subjects was analyzed. The average age of this sample was approximately 9 years old.

### Overview of Measures and Procedures

During the course of the study, children were tested twice individually by one of two “White” female experimenters. The two testing sessions were held approximately one week apart and each lasted from 30 to 45 minutes. The general purpose and procedures of the study were explained to the children at the beginning of the first session. Children were told that the experimenters were interested in the “kinds of guesses that children make about other kids their own age.” At this point they were asked for their own willingness to participate and were informed that they could discontinue at any point if they so wished.

The following is a brief overview of the order in which the measures were administered in each of the sessions. During the first session, children were given a number of measures which assessed their relationships with and liking for actual same-sex peers within their classrooms. Of these measures, only the one which assessed children’s liking for same- versus cross-race peers was analyzed for the current study. Children were then given the “Buddy-for-the-day-test” in which they were asked to indicate their preferences for same- versus cross-race unfamiliar peers, one of whom could be their “Buddy” for one day. Following this, children’s racial attitudes were assessed through the Multiple-Response Racial Attitude measure (MRA; Doyle & Aboud, 1995). The scores on the MRA were later used to categorize children into Higher- and Lower-Prejudice categories. Next, children’s expectations for trait prevalence and for trait variance with regard to the White and Black groups were assessed through the Expectation of Trait Prevalence measure (ETP, developed for this study). Finally, children were asked to indicate their behavioural expectations of same- versus cross-race hypothetical targets in cross-race peer-contact situations through the Racial Expectations Measure (REM, unpublished measure obtained from Aboud).



Table 1

Number and Percentage of White and Minority Children in Classrooms Tested in Each School

School	Number of White children (as % of total children in participating classes)	Number of non-White children (as % of total children in participating classes)	Number of minority children (as % of non-White population) [as % of the total number of children in participating classes]				
			Black	East Indian	Asian	Native	Other**
School 1 (# of children in participating 3rd-grade classes*) (n = 56)	34 (61%)	22 (39%)	3 [14%] (5%)	8 [36%] (14%)	9 [41%] (16%)	0 0 (0%)	2 [9.09] (3.57)
School 2 (n = 86)	42 (49%)	44 (51%)	6 [14%] (7%)	8 [18%] (9%)	27 [61%] (31%)	0 [0%] (0%)	3 [6.82] (3.49)
School 3 (n = 47)	38 (81%)	9 (19%)	5 [56%] (11%)	1 [11%] (2%)	2 [22%] (4%)	0 [0%] (0%)	1 [11.11] (2.13)
School 4 (n = 67)	53 (79%)	14 (21%)	2 [14%] (3%)	2 [14%] (3%)	0 [0%] (0%)	8 [57%] (12%)	2 [14.29] (2.99)

\* These numbers represent all children in the participating classrooms (i.e., not just the participants in the study).

\*\* The "Other" category consists of racially mixed children (i.e., Black/White, Native/White, and Mixed-other)

In the second session, a computer program was used in order to assess (a) the tendency of children to stereotype White and Black individual unfamiliar peers (Targets), (b) the rapidity with which children made evaluative decisions about White and Black Targets, and (c) children's liking for White and Black Targets. For the Stereotyping measure (developed for this study), children were shown pictures of same-sex, White and Black Targets and were provided with brief non-diagnostic descriptions about each Target. They were then asked to indicate whether each Target possessed a number of positive and negative characteristics. Children's "yes" and "no" responses yielded a measure of the specific traits attributed to White and Black targets, whereas their response latencies yielded a measure of the readiness or rapidity with which they made such evaluative decisions. Children were also asked to indicate their liking for each target. At the end of this session, children were thanked for their participation and given the opportunity to discuss any questions or comments that they may have had.

#### Measures of Group Perception

Multiple-Response Racial Attitude Measure (MRA: Doyle & Aboud, 1995). The MRA was administered through the standard procedure (cf. Doyle & Aboud, 1995) used in a number of previous studies (see Aboud & Doyle, 1996a & 1996b, and Aboud & Fenwick, 1999 for more recent versions of the MRA). According to this procedure, children are presented with three boxes, one belonging to a hypothetical White child, one to a Black child and one to a Native Indian child. Each hypothetical child is identified by an appropriate same-sex, coloured head drawing which is placed on the front of each box. These drawings differ only in skin colour and hair texture. For training purposes, the children were presented with three pictures of "Black" children and were asked "Whose cousins are each of these children most likely to be?" They were then asked to put each picture in a box to which it belonged. A similar procedure was carried out for White and Native Indian "cousins." Next, children were given three identical cards with a picture of a

T-shirt on each. The children were then asked “Who wears T-shirts? Is it the Black child, the White child, the Native Indian child, or more than one child who wears T-shirts? Put the T-shirts in the boxes where they belong.” The experimenters then made sure that children understood that the cards could be sorted into at least two of the boxes.

For the actual trials, the children were presented with 24 adjectives. Each adjective was presented as words on three identical cards. Ten of the adjectives were positive (Friendly, Plays fair, Sense of humour, Good ideas for things to do, Someone you can trust, Polite, Enthusiastic, Kind, Helpful, and Smart), 10 were negative (Unfriendly, Mean, Picks on other kids, Show-off, Bossy, Selfish, Teases other children, Fights, Sad, and Excludes others), and four were filler items (Likes sports, Likes to sing, Likes T.V., and Likes music). For each adjective, children were handed the three cards and were instructed to place them in the box or boxes of the people “who are that way.” The children were reminded that they were free to choose whether none, one, two or all three groups represented were that way.

For scoring purposes, the number of different positive and negative adjectives placed in each box was recorded. Twelve scores were obtained for each subject: Six Component scores and six Index scores (Bias, Counter-bias, and Composite scores for the two minority groups). The Component scores were the Positive and Negative scores for each racial group (Black, White, and Native Indian), each with a possible range of 0-10. The White/Black (W/B) Bias score was derived by summing the Positive-White and Negative-Black scores, and a “W/B Counter-bias” score, derived by summing the Negative-White and Positive-Black scores, with a range of 0-20 for each (a similar scoring system was used for White/Native Indian (W/NI) Bias and Counter-Bias scores). Finally, Composite scores were obtained by subtracting Counter-Bias scores from Bias scores, for each W/Minority combination .

In contrast to previous studies, examination of intercorrelations between the Component scores of the MRA revealed that attribution of positive qualities to the White group (i.e., Pos-W) was neither significantly correlated with the attribution of negative qualities to Blacks (Neg-B) ( $r = .06$ ,  $p = \text{ns}$ ) nor with the attribution of negative qualities to Native Indians (Neg-NI) ( $r = -.04$ ,  $p = \text{ns}$ ). Negative attribution to Whites (Neg-W), on the other hand, was significantly and positively correlated with positive attribution to Blacks (Pos-B,  $r = .26$ ,  $p < .005$ ) and with positive attributions to Native Indians (Pos-NI,  $r = .19$ ,  $p < .05$ ) (see Table 2).

White children's attribution of positive qualities to their own group was also not related to their attribution of positive qualities to the Black group ( $r = .04$ ,  $p = \text{ns}$ ) or to the Native Indian group ( $r = .12$ ,  $p = \text{ns}$ ), whereas, attribution of negative qualities to their own group was significantly and positively related to attribution of negative qualities to the two outgroups ( $r = .56$ ,  $p < .0001$  for Blacks, and  $r = .42$ ,  $p < .0001$  for Native Indians). The intercorrelations between the Component scores of the MRA also revealed significant, positive, relationships between positive-Black and positive-Native Indian scores ( $r = .25$ ,  $p < .01$ ), and between negative- Black and negative-Native Indian scores ( $r = .51$ ,  $p < .0001$ ).

Examination of the correlations between the Indices of the MRA (i.e., Composite, Bias and Counterbias scores) and their Components (i.e., the Positive and Negative scores from which they had been derived) were carried out for W/B and W/N scores separately. In looking at the Indices involving the Black targets (see Table 3), both the Bias and Counterbias scores were found to be significantly correlated with the Composite score ( $r = .53$ ,  $p < .0001$ , and  $r = -.78$ ,  $p < .0001$ , respectively), with Counterbias being more strongly correlated with the Composite score. Of the two Component scores of Counterbias, it was the Positive-Black score that had the highest correlation with the Composite score ( $r = -.84$  versus  $r = -.45$ ,  $ps < .0001$ ). Unlike Doyle and Aboud's study

Correlations Between Attributions to Whites and Attributions to Blacks (B) and Native Indians (NI) on the Multiple-Response Racial Attitude Measure (MRA)

	N = 103			
	Positive-B	Negative-B	Positive-NI	Negative-NI
1. Positive-White	.04	.06	.12	-.04
2. Negative-White	.26**	.56***	.19*	.42***

Note. Two-tailed probability:

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

Table 3

**Intercorrelations Between the White/Black Component Scores and Indices of the Multiple-Response Racial Attitude Measure (MRA)**

	N = 103						
	1	2	3	4	5	6	7
1. W/B Composite Score	----	.53***	-.78***	.36***	-.45***	-.84***	.44***
2. W/B Bias		----	.12	.40***	.44***	-.35***	.94***
3. W/B Counterbias			----	-.13	.85***	.73***	.18
4. Positive-White				----	-.21*	.04	.06
5. Negative-White					----	.26**	.56***
6. Positive-Black						----	-.39***
7. Negative-Black							----

Note. Two-tailed probability:

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

Table 4

**Intercorrelations Between the White/Native Indian Component Scores and Indices of the Multiple-Response Racial Attitude Measure (MRA)**

	N = 103						
	1	2	3	4	5	6	7
1. W/N Composite Score	-----	.56***	-.78***	.30**	-.53***	-.74***	.47***
2. W/N Bias		-----	.09	.34***	.32***	-.34***	.93***
3. W/N Counterbias			-----	-.10	.88***	.63***	.14
4. Positive-White				-----	-.21*	.12	-.04
5. Negative-White					-----	.19*	.42***
6. Positive-Native						-----	-.41***
7. Negative-Native							-----

Note. Two-tailed probability:  
 \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

(1995), however, the Bias and Counterbias Indices were not, however, significantly related to one another ( $r = .12$ ,  $p = ns$ ) and so may be tapping different phenomena. Of the two components from which the Bias score had been derived, Negative-Black was much more strongly correlated to the Bias score ( $r = .94$ ) than was the Positive-White score ( $r = .40$ ). Variation in MRA Bias, therefore, seemed to more strongly reflect variation in children's negative attitudes to Blacks than their positive attitudes toward Whites. MRA Counterbias, on the other hand, had almost equally strong correlations with both of its component scores ( $r = .73$  with Positive-Black and  $r = .85$  with Negative-White). A similar pattern and strength of correlations was found for indices involving the Native Indian targets (see Table 4).

Assessment of expectation of trait prevalence. The Trait Prevalence measure was developed for the purposes of this study (a) to assess children's expectations of the prevalence of positive and negative traits within different racial groups and (b) to assess children's expectation of trait variability within each racial group (i.e., to determine the degree to which children believe that members within a particular group are homogeneous with regards to particular traits). Although this measure was based on previous research by Linville and her colleagues (e.g., Linville et al., 1989), it turned out to be similar to one independently developed by Bigler (1995). Bigler initially used her measure in the assessment of sex-stereotyping, but later applied it with her colleagues (Bigler et al., 1997) to the assessment of the within-group homogeneity effect using a minimal-group paradigm. The measure used in the current study differs from the measure developed by Bigler and her colleagues in essentially two ways: First, in the manner in which children were asked to indicate whether none, some, most or all of the people in a target group possessed a particular quality, and second, in the actual evaluative adjectives that were used.

The materials for the Trait Prevalence measure consisted of three coloured head drawings representing the three target groups (White, Black, and Native), ten trait attribute



cards, and five distribution cards. The coloured drawings were the same as those used for the MRA. The ten attribute cards consisted of 5 positive (Play fair, Polite, Helpful, Smart, and Kind) and 5 negative (Unfriendly, Mean, Selfish, Show-off, and Bossy) adjectives which the experimenter had chosen from the MRA. Children used the distribution cards to indicate the extent to which they believed that attributes were shared by members of each group. In order to represent the different reply categories (i.e., "none," "some," "half," "most," or "all" of the members of a group), each distribution card was split down the middle with a black vertical line and had varying numbers of stick figures on each side of the line. The "None" card, for example, had four stick figures on one side of the card and no stick figures on the other side, whereas, the "Some" card had one stick figure was on one side of the line and three figures on the other side, and so on. Children were told that the stick figures represented people and that they were to use these distribution cards to show how many people were the way described by adjectives given to them.

Before the actual trials, children were given a practice session in which they were given the distribution cards and asked to indicate how many children in general "like to have fun." They were told, "I want you to use these stick people to show me how many people like to have fun. Does no one like to have fun? Do only a few people like to have fun? Do half the people like to have fun? Do most people like to have fun? or Does everyone like to have fun?" They were then asked to do the same thing for three other attributes: "Like to pick up garbage," "Have brown eyes," and "Eat cereal." For the experimental trials, children were presented with the ten written attributes, one at a time and in random order, and were asked to place each adjective under one of the distribution cards which best fit their belief as to whether none, some, half, most or all of the children belonging to the White group were the way described by the card (e.g., "Do all white children play fair? Do most play fair? etc..."). When all the adjective cards had been considered for the White group, children were asked to follow the same procedure for the

next two groups. The order of presentation of the Black and Native Indian groups was counterbalanced. Except for the examination of children's attitudes toward Blacks versus Native Indians on the MRA, the current study focuses mainly on children's perceptions of the White and Black target groups.

As a way of measuring children's expectations of trait prevalence for each group, children's ratings of 0 ("none") to 4 ("all") were added and averaged for the 5 positive and 5 negative adjectives separately, yielding 4 scores for each subject (Positive-Black, Positive-White, Negative-Black, and Negative-White). These scores were taken as an indication of the extent to which positive and negative traits were generalized to the members of one group versus the other group.

In looking at the intercorrelations between the items from which the Positive and Negative evaluation scores for Whites and Blacks were derived, only two of the five Positive-White items were found to be significantly correlated with one another ( $r = .40$ ,  $p < .001$ , between "Smart" and "Helpful"), whereas, all of the 5 items for each of the Positive-Black, Negative-White, and Negative-Black scales were significantly and highly related to one another (at  $p < .001$  level). This was reflected by the alphas of each of the scales, with Positive-White having the lowest alpha level (.49) compared to a range of .73 to .83 for the other scales. This finding could indicate that these White children expected their own group to vary with regards to the types of positive traits that are possessed by its members (e.g., only some White children play fair but all are smart), whereas, they perceived the negative qualities of both the White and Black groups, as well as the positive qualities of Blacks, to be related to one another.

Assessment of perception of within-group trait variance. To measure children's perception of trait variance for the White and Black target groups, children's responses on the Trait Prevalence measure were re-scored into three categories: 1 = "none" or "all", 2 = "few" or "most", 3 = "half." These scores were then averaged to yield Positive-Black,

Positive-White, Negative-Black, and Negative-White scores for each subject. Low scores, therefore, indicated the perception of less variance (or more homogeneity) among group members with regards to positive or negative traits.

**Racial Expectancy Measure.** The Racial Expectancy Measure (REM, unpublished measure obtained from Aboud) was used to assess the kinds of behaviour that children expect from same- versus cross-race peers in hypothetical cross-race encounters. Following the procedure suggested by Aboud (personal communication) children were presented with 24 different drawings in which two children, a White child and a Black child, were depicted as engaging in an activity (e.g., sitting at a park bench, eating their lunch at school). For each picture children were asked to "choose one or more than one of them who is going to ... (act in a particular way)." Ten of the drawings represented positive relational behaviours ("Laugh with the other kid," "Start a conversation," "Help the other kid," "Stand up for the other kid," "Say 'Hi, what are you doing?'," "Share things with the other kid," "Ask to play together," "Smile at the other," "Say 'Let's be friends'", and "Be friendly") and ten represented negative behaviours ("Ignore the other kid," "Start to argue," "Be bossy," "Get angry," "Make fun of the other kid," "Call the other kid names," "Say mean things," "Leave to find some other kids," "Push the other kid," "Hurt the other's feelings"). The other four items were fillers (e.g., "Get a drink of water," "Stay after school to play"). The scoring of the Racial Expectancy Measure consisted of adding and the number of positive and negative adjectives attributed to the White and Black targets, resulting in four scores for each subject: Positive-White, Positive-Black, Negative-White, Negative-Black (each with a range of 0 to 10).

**Stereotyping and Response Latency Measures.** The Stereotyping and Response Latency Measures were both administered via a customized computer program (based on Hyper Card) which had been specifically designed for this study. The computer was a Power Macintosh which had been equipped with a colour monitor and auditory capacities.

This allowed the experimenters to show pictures of various Black and White unknown peers (hereafter referred to as “Targets”) to the children, to present brief descriptions about each and ask questions about these Targets. The program enabled the assessment of children’s decisions as to whether or not individual White and Black targets possessed positive and negative traits (i.e., their tendency to stereotype) by recording their “yes” or “no” responses to prerecorded questions. At the same time, the program enabled the recording of the response-latencies (in milliseconds) related to the making of such decisions. As will be described below, the program also allowed the assessment of children’s liking for the targets that they had seen and made decisions about. It was hoped that the utilization of this computer program would increase experimental control, as well as minimize differences associated with linguistic competence and with task demands. The experimental procedure was also designed to produce a game-like atmosphere, both as a means of reducing potential reactivity against such tests, and as a way of generating children’s active interest in the testing.

As with the first part of the study, children were told the experimenters were interested in the kinds of guesses that children make about others. They were then told that the computer would show them pictures of two peers whom they had never met and that it would then tell them a few things about each peer. Following this, they would be asked to guess whether each peer possessed a number of characteristics. It was emphasized that there were no right or wrong answers.

In the practice trials, children learned how to indicate their “yes” or “no” responses and also learned how to indicate their liking for the Targets. For the practice of yes/no responses, children were presented with pictures of two cartoon figures and heard neutral/non-diagnostic descriptions of each. Following the descriptions, one of the cartoon figures appeared on the computer screen for two seconds. The order of appearance of the cartoon figures was randomized. After the picture had disappeared from the screen, the

children were asked to respond either “yes” or “no” as to whether they believed that the cartoon figure would be the way described by the question. They were asked to respond as soon as they had decided what they wanted to say. The questions were a random sample of those used in the actual trials and stemmed from three different trait or behavioural categories (i.e., prosocial/positive, aggressive/negative and social-isolation), as well as one filler category. The practice trials were terminated by the experimenter when the child was believed to have mastered the task (approximately after answering 10 - 15 questions).

Following the practice trials, subjects were told that they were going to learn about two boys or two girls (same-sex as the subject) who were of the same age as they, but who went to a different school. Children were asked to listen carefully to what the computer was going to tell them about each boy (or girl) and to look carefully at the pictures of each target. They were also asked to try their best to imagine what each boy (or girl) was like because they would later be asked to make guesses about each child. As with the practice trials, the children were asked to respond by pressing either the “yes” or the “no” key as soon as they had their answer. They were not informed that their reaction times were being recorded.

As a means of presenting one Black and one White target in a way that they would not appear to have been experimentally manipulated, steps were taken to lead children into believing that they had choices in hearing about any random pair of children. Specifically, children were shown three closed doors (“Door #1,” “Door #2,” and “Door #3”) on the computer screen. They were told that behind each of these doors was a picture of a boy (or a girl) whom they could choose to see and hear about. They were asked, however, to choose only two of these doors by “clicking” on them with a mouse. In reality, the computer had stored a total of 12 pictures: 3 Black boys, 3 White boys, 3 Black girls, and 3 White girls. Regardless of the child’s choice of two of the three doors, the child was randomly assigned to a pair of same-sex targets, one White and the other Black (out of a

possible combination of 9 pairs for each sex of subject). The children depicted in these 12 photographs had been found by the pilot study to be of average attractiveness to university students.

After each child had made his or her choice of two doors, the computer simultaneously revealed both pictures that had supposedly been hidden behind them. The screen then went blank for 2 seconds. The computer then showed the picture of one of the targets followed by an auditory description of that target, and then showed the second target followed by a different description of that one. Each picture remained on the screen for the duration of the descriptions. The presentation orders for the targets, as well as for the descriptions, were counterbalanced across subjects. The two sets of descriptions for the targets consisted of four sentences each and had been designed to be neutral or nondiagnostic of the personality of the targets (Description one: "He/She likes hamburgers," "bought a blue sweater," "has a brother," and "likes to watch TV"; Description two: "He/She likes ice cream," "has a striped shirt," "has a sister," and "likes movies").

After hearing the descriptions of the targets, children were told that they would now be asked some questions about each boy (or girl). It was explained that each time a picture of one of the boys (or girls) came up on the screen, they would immediately be asked a question about him (or her) and that they would have to indicate their response to each question by pressing either the "yes" or "no" key. The computer program was designed in such a way that the order in which the pictures and the questions appeared was randomized and each picture did not appear more than three times in a row. Upon the presentation of each target, the picture remained on the screen for approximately 2 seconds. This was followed by approximately .5 to 1 second of blank on the screen after which a question was posed about that target.

Twelve of the 20 questions posed about each of the targets stemmed from two categories: 6 prosocial/positive (P) items and 6 aggressive/negative (N) items. The items representing these two categories were selected from the MRA and, based on Sagar and Schofield's (1980) suggestion were divided into behaviours (B) and traits (T) (i.e., Positive Behaviours: Plays fair, shares, and fun to be with; Positive Traits: Friendly, kind, and helpful; Negative Behaviours: Fights with others, uses bad words, and teases others; Negative Traits: Mean, bossy, and selfish). Four other questions stemmed from the behavioural category of Social Isolation (SI: Rather play alone, quieter than other kids, left out of games and trouble making friends, see Rubin and Mills, 1988 and Masten, Morison, & Pellegrini, 1985 for sources of these items). The other four questions were filler items (i.e., Good at sports? Likes to sing? Likes computers? Likes dogs?).

Overall, each child was asked the same 20 questions about each of the targets (total of 40 questions). The order of presentation of the White and Black targets and of the questions was randomized. The programming of the computer ensured that a question that had just been asked about one target would not appear immediately for the other target, and that an equal number of positive and negative questions would be asked within the first ten as within the last ten questions. It was also arranged that each child would not receive more than two questions in a row from the same category (i.e., P, N, or SI).

The computer began the timing of response latency after each question had been asked. The timing ended when a response was entered into the computer. Both the response ("yes" or "no") and the response latency were recorded for each question. After each response had been given, the computer screen remained blank for about 2 seconds, following which the next picture and question were presented. The left/right positions of the "Y" and "N" keys were counterbalanced across subjects in order to counteract any left/right preferences of the children.

The index of interest for the stereotyping measure was the average number of positive and negative traits that children endorsed (i.e., number of “yes” responses) for the White and Black targets. The internal consistencies (Cronbach’s alpha) for the Positive-White, Negative-White, Positive-Black, Negative-Black scales were quite acceptable (ranging from .86 for Negative-Black to .93 for Positive-White). For the response-latency measure, the index of interest was the average time that children took to respond to positive versus negative questions about White and Black targets. After all the questions had been answered with regard to both Targets, the computer asked the children to rate the Targets according to how much they liked them (see below).

#### Peer-Preference Measures

Liking of White and Black unknown peers (Targets). The computer program, described above, also allowed the assessment of the children’s liking for the individual White and Black Targets whom they had seen and made decisions about. Prior to the actual trials, each child had been trained to indicate their degree of liking for different things (e.g., “How much do you like ice cream/broccoli/hamburgers?) by using a rating scale on the computer. The scale consisted of five stickers which had been placed on adjacent keys of the computer. The stickers depicted sad to increasingly happy faces which corresponded to 5 responses: 1 = “Do not like very much,” 2 = “Like a little,” 3 = “Think it/he/she is OK,” 4 = “Like”, and 5 = “Like a lot.”

In the actual trials, children used the rating scale to indicate their liking for the White and Black Targets that they had just made decisions about. Children were first presented with a picture of one of the Targets on the computer screen. This picture remained on the screen for approximately two seconds and then disappeared. The computer then asked four different questions from the children with regards to that Target: “How much would you like to play with this kid?” “How much would you like to be friends with this kid?” “How much would you like to work at school with this kid?” and “How much would you like to



invite this kid to your home?" Following each question, the child was given time to rate that Target from 1 to 5. After the four questions had been answered, the child was shown the picture of the second Target and was asked the same four questions. The order in which the Black and White Targets appeared were counterbalanced across the subjects.

Buddy-for-the-day Test. The Buddy-for-the-day Test (BDT) was developed for this study as a way of measuring children's liking and ranking of unfamiliar White and Black peers as potential "Buddies" for one day. This test was different from the others in that (a) the children were led to believe that there was a possibility of meeting and spending time with these peers and (b) the children were asked to choose whom they would like to have as a "Buddy-for-the-day." For this test, children were shown pictures of the potential Buddies: Three White and three Black boys or girls (same sex as the subject) whom they had never met. As a cover story, they were told that these potential Buddies attended another school but were of similar age. They were also told that because these Buddies lived in another part of Montreal, they had probably not visited each other's community. The experimenters were trying to arrange for these buddies to come to their school for one day so that they could "show them around, have fun with them, and tell them what it is like to live here." The subjects were then asked if they would be interested in becoming a Buddy with one of these children for that day. All of the children in the study expressed an interest in this.

Each child was then asked to place the pictures in an order which reflected their first to sixth choice for having each as a "Buddy for the day," supposedly so that matches could be made between the children in both schools. After the children had made their ranking, the pictures were reshuffled and they were asked to rate these same potential Buddies from 1 (not like very much) to 5 (like a lot), according to how much they thought they would like them if they met them. After the children had given their ratings, the experimenters explained that they now needed to determine whether the children in the other school could come. Buddy choices were made in the first session, so at the end of the second session, the children were thanked

for their willingness to participate in having a “Buddy for the day,” but told that, unfortunately, because of conflicting class schedules, it had not been possible to arrange for a “Buddy-for-the-day” day for that year. The dependent variables obtained were the number of Black targets ranked in the top three positions, as well as the average liking ratings given to White and Black Buddies.

Liking of actual same- vs. cross-race peers. To assess children’s liking for same- and cross-race peers, children were given a list of same-sex classmates and asked to rate their liking for each peer from one to five (1 = “Don’t like very much,” 2 = “Like only a little,” 3 = “Think he/she is OK,” 4 = “Like,” and 5 = “Like a lot”). The variables of interest were, thus, the mean liking ratings given to same- versus cross-race peers. The number of peers in each mean varied by class.

#### Teacher Ratings of Academic Abilities

In order to control for differences in academic performance, classroom teachers were given a list of the participating children and asked to rate each in terms of their general academic performance over the past year (GENAC: 1 = poor to 5 = excellent). They were also asked to indicate each child’s ability in Reading, Writing and Mathematics, again from 1 to 5.

### Results

#### Overview of Analyses

This study examined several hypotheses with regards to the racial attitudes of White children. I first present the results pertaining to children’s attitudes toward the Black and Native Indian minority groups on the MRA. I then present the results pertaining to differences between Higher- versus Lower-Prejudice children in terms of their (a) judgments of individual Black and White Targets (via a Stereotyping measure), (b) behavioural expectations from peers during hypothetical cross-race peer encounters, (c) expectations of the prevalence of positive and negative traits belonging to White and Black target groups, (d) expectations of the homogeneity of each of these groups with regard to these traits, (e) readiness to make decisions

about hypothetical White and Black peers (via a response-latency measure), and (f) preferences for, and behavioral intentions toward, known and unknown, same- and cross-race peers.

Finally, I present the results pertaining to the relationships between the different measures of racial attitude and children's preferences for same- and cross-race targets.

#### Children's Racial Attitudes toward Blacks vs. Native Indians as a Function of Sex of Subject and Minority Group Presence in Classrooms

As a preliminary analysis, the attitudes of children toward Black and Native Indian minority groups were examined as a function of (a) the proportion of various minority groups in their classrooms and (b) the sex of subjects. Although it had been predicted that the White children in this study would, on the whole, have higher prejudice toward the Black than toward the Native Indian group on the MRA, it was also hypothesized that the prejudice of children toward the Black and Native minority groups would differ according to the degree proportion of these minority groups in the third-grade classrooms tested. Since some previous studies had found sex differences in children's relationships with cross-race peers (e.g., Boulton & Smith, 1996; Hallinan & Tiexeira, 1987; Kistner et al., 1993), sex of subject was included as a variable in this study for exploratory purposes.

To examine the influence of the racial composition of third-grade classrooms on racial attitudes, each school was first categorized according to its largest minority group in the third grade. Since two schools had large and heterogeneous Non-White populations (39% and 51% of the total 3rd grade, for school 1 and 2 respectively), with the largest minority group for both schools being Asian (41% and 61% of the Non-White population, respectively), the subjects in the third-grade classrooms of these two schools were combined to give the "Heterogenous/Asian Minority" School category ( $n = 76$ ). The third school was composed of 19% Non-White children in the third grade and the largest minority group was Black (56% of the Non-White population, 11% of the total grade). This school was labelled as "Black Minority" ( $n = 38$ ). The fourth school was composed of 21% Non-White children in the third-

grade and the largest minority group was Native Indian (57% of the Non-White population, 12% of the total grade). This school was labelled as “Native Indian Minority” ( $n = 53$ ).

In order to investigate whether there were differences in children’s attitudes toward Black versus Native groups, and also whether children’s attitudes toward these two minority groups differed as a function of third-grade classrooms (henceforth referred to as “school”) and/or of sex of subject, the MRA W/B and W/NI Composite scores were subjected to a 3 (School Category: Asian, Black, Native Indian)  $\times$  2 (Sex of Subject)  $\times$  2 (Target Group: W/B, W/NI) ANOVA, with the Target Group (W/B, W/NI) as the repeated factor. The results revealed two significant main effects, one for Target Group (Target),  $F(1, 97) = 5.38, p < .05$ , and the other for Sex of Subject (Sex),  $F(1, 97) = 5.35, p < .05$ . There was no significant interaction between School and Target Group, so that attitudes toward the two groups did not differ as a function of school. The School factor was, therefore, dropped from the analyses in the remainder of the study.

Consistent with the hypotheses, examination of the means related to the Target main effect revealed that children had significantly higher Composite scores (i.e., higher Bias than Counterbias) for the Black group ( $M = 1.44, SD = 5.6$ ) than for the Native Indian group ( $M = .44, SD = 5.2$ ). Unexpectedly, examination of the Sex main effect revealed that across both Target groups, boys had significantly higher Composite scores than girls ( $M_s = 1.96$  vs.  $-.11$ , respectively).

In order to get a more detailed picture of the Target and Sex main effects obtained in the above analysis, a second MANOVA was conducted on the W/B and W/NI Bias and Counterbias scores, since these were the indices from which the Composite score had been derived. The Bias and Counterbias scores were thus subjected to a 3 (School: Asian, Black, Native Indian)  $\times$  2 (Sex)  $\times$  2 (Measure: Bias, Counterbias)  $\times$  2 (Target: W/B, W/NI) design. The two first factors were between-subjects and the last two were within-subjects. Only the results pertaining to the interactions between Sex and Measure ( $F(1, 97) = 5.35, p < .05$ ) and

between Target and Measure ( $F(1, 97) = 5.38, p < .05$ ) were pursued further, since these were the interactions of interest that had been implied by the Sex and Target main effects, respectively, in the results obtained above.

Follow-up of the Target by Measure interaction revealed that higher Composite scores for the Black vs. the Native Indian group could be explained by significantly higher Bias scores for the Black than for the Native group,  $F(1, 97) = 6.51, p < .01$ . There was no significant difference in children's level of Counterbias for the two groups ( $F(1, 97) = 2.5, p < .05$ ). In addition, children had more Bias than Counterbias for the Black group,  $t(102) = 2.59, p < .01$ , but not for the Native Indian group ( $t(102) = .85, p = ns$ ). Follow-up of the Sex by Measure interaction revealed that the higher Composite scores of boys could be explained by boys having significantly more Bias than Counterbias scores across both targets ( $M_s = 14.35$  vs.  $12.3, F(1, 97) = 4.69, p < .05$ ), but not girls ( $M = 13.38$  vs.  $13.49, F(1, 97) = .01, p > .05$ ). No other comparisons were significant.

To summarize, as expected, children had higher prejudice toward Blacks than toward Native Indians. This was explained by significantly higher Bias scores toward Blacks than toward Native Indians and also by significantly more Bias than Counterbias toward Blacks. There was no significant difference in levels of Counterbias toward the two groups. Unexpectedly, boys were found to have significantly higher prejudice scores than girls, explained by significantly higher Bias than Counterbias scores of the boys, but not of the girls. Since the degree of presence of these minority groups in the third-grade classrooms did not appear to influence the prejudice level of the White children, School was dropped as a factor in the analyses which followed.

#### Derivation of Higher- and Lower-Prejudice Categories

For the purposes of testing the remaining hypotheses in this study, children were assigned to the Lower-Prejudice (LP) group ( $n = 57, 55.3\%$  of the total) if their Composite prejudice score on the MRA was less than or equal to zero, and to the Higher-Prejudice (HP)

group ( $n = 46$ , 44.7% of the total) if their prejudice score was greater than zero. This categorization led to more boys than girls being placed in the Higher-Prejudice category (52% vs. 37% of the HP category, respectively), and to more girls than boys being placed in the Lower-Prejudice category (63% vs. 48% of the LP category, respectively).

#### Responses of Higher- and Lower-Prejudice Children on the Stereotyping Measure

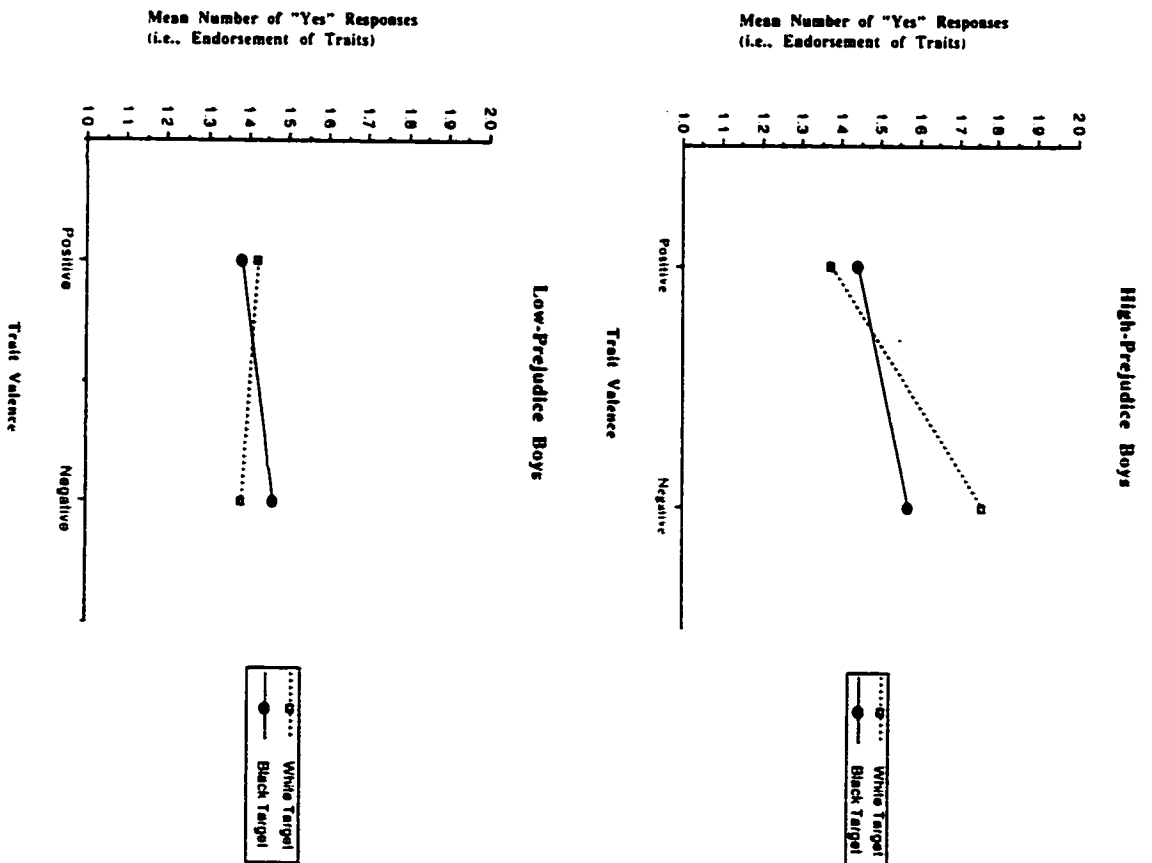
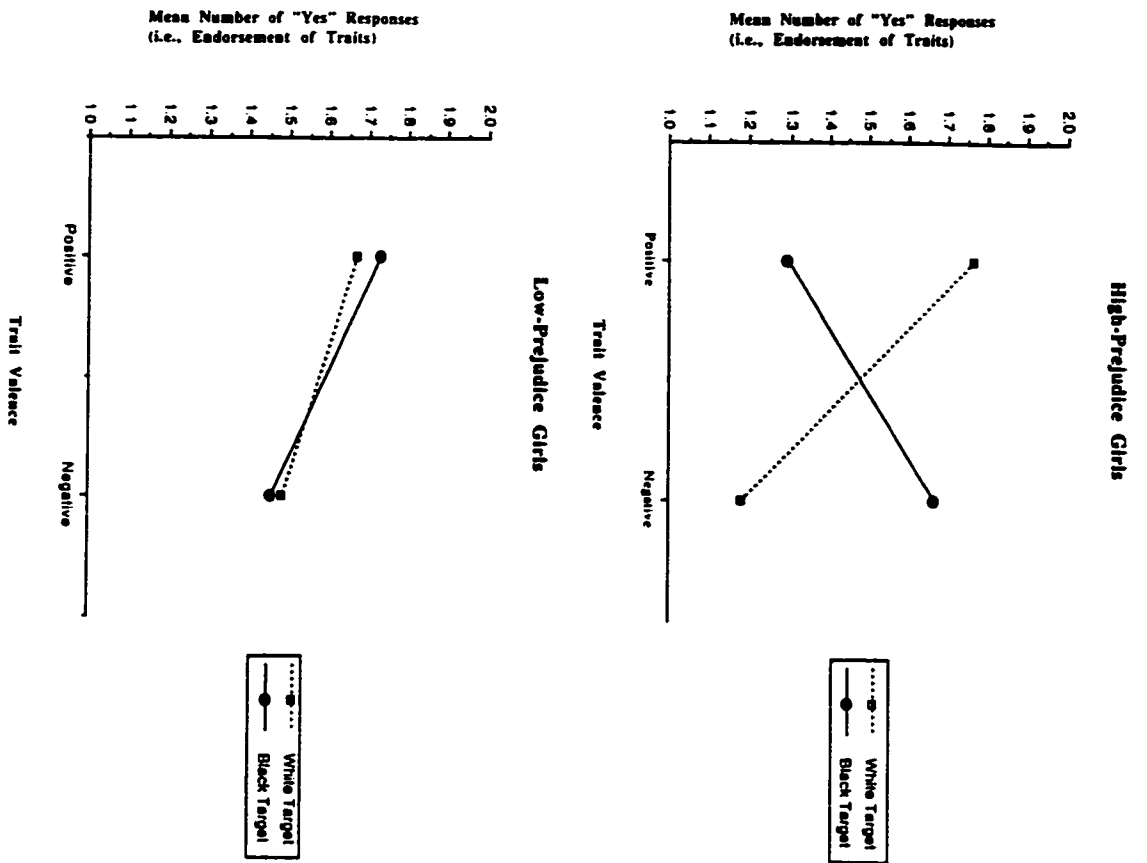
Unlike the MRA, the Stereotyping measure had been designed to draw the attention of children more toward the individuality of the targets, rather than toward the racial categories to which they belonged. The questions of interest were (a) whether the responses of children on this measure would resemble their responses on the MRA, and (b) whether children's responses toward the White and Black targets on the Stereotyping measure would vary as a function of their prejudice level (i.e., Lower or Higher as measured by the MRA) and/or as a function of the sex of the subjects.

Considering the overlap between the items of the MRA and the Stereotyping measure, the close to zero correlation ( $r = .02$ ,  $p = ns$ ) that was obtained between the Summary scores of the two measures was quite unexpected. The correlations between the component scores of these two measures ranged from  $r = .00$  to  $r = -.11$ ,  $ps = ns$ . Although the mean correlation between the two measures was somewhat higher for Higher-Prejudice children than for Lower-Prejudice ones ( $r = .11$  versus  $r = .03$ , respectively), and so was in the direction that had been predicted, the low correlations indicate that the two were not reliably related.

With regards to the question of the influence of prejudice level on stereotyping, children's mean number of "yes" responses to questions regarding whether the Black and White targets possessed positive (prosocial) and negative (aggressive) attributes were subjected to a 2 (Prejudice level: Higher, Lower) x 2 (Sex of Subject) x 2 (Type of Evaluation: Positive, Negative) x 2 (Race of Target: White, Black) MANOVA, with Type of Evaluation and Race of Target as the repeated factors. It had been hypothesized that there would be a three-way interaction between Prejudice level, Type of Evaluation, and Race of Target, whereby Higher-

Prejudice children would, for example, attribute more negative than positive characteristics to Blacks and more positive and negative characteristics to White targets, but the Lower-Prejudice children would not.

The results were partly consistent with the hypothesis in that the predicted three way interaction was not significant by itself, but was a part of a 4-way interaction between Sex of Subject, Prejudice Level, Type of Evaluation and Race of Target,  $F(1, 99) = 6.93, p < .01$  (see Figure 1). Follow-up of the 4-way interaction was carried out by examining the 3-way interaction between Prejudice Level, Type of Evaluation and Race of Target for the two sexes separately. The results revealed a significant 3-way interaction for girls,  $F(1, 99) = 7.17, p < .01$ , but not boys,  $F(1, 99) = 1.04, p = ns$ . Examination of the interaction between Type of Evaluation and Race of Target for Higher- vs. Lower-Prejudice girls separately, revealed a significant 2-way interaction for Higher-Prejudice girls,  $F(1, 99) = 9.46, p < .01$ , but not for Lower-Prejudice girls ( $F(1, 99) = .16, p = ns$ ). Looking at the attributions of Higher-Prejudice girls toward the White vs. Black targets, for positive and negative evaluations separately, HP girls had made significantly more positive attributions to Whites than to Black targets ( $F(1, 99) = 4.73, p < .05, Ms = 1.76$  vs.  $1.29$ ), and also had made significantly more negative attributions to Black than to White targets ( $F(1, 99) = 4.73, p < .05, Ms = 1.66$  vs.  $1.18$ ). Finally, an examination of differences between positive and negative evaluations made for White and Black targets separately revealed a significant main effect for Type of Evaluation for White targets ( $F(1, 99) = 7.06, p < .01$ ), but not for Black targets ( $F(1, 99) = 2.86, p = ns$ ). That is, HP girls had made significantly more positive than negative attributions for the White target ( $Ms = 1.76$  vs.  $1.18$ ), and, although they made more negative than positive attributions for Black targets ( $Ms = 1.66$  vs.  $1.29$ ), this difference was not significant.



**Figure 1.** Mean number of "yes" responses of High- versus Low-Prejudice boys and girls to questions about Black and White Targets possessing positive and negative qualities on the Stereotyping measure.



To summarize, despite the overlap of the items of the MRA and the Stereotyping measure, the two measures were not even remotely correlated with one another. Also, contrary to what had been predicted, the correlations between these two measures did not differ for Higher- versus Lower-Prejudice children. The prediction that Higher-, but not Lower-Prejudice children would differentially attribute positive and negative characteristics on the Stereotyping measure was found to be true only for girls, but not boys.

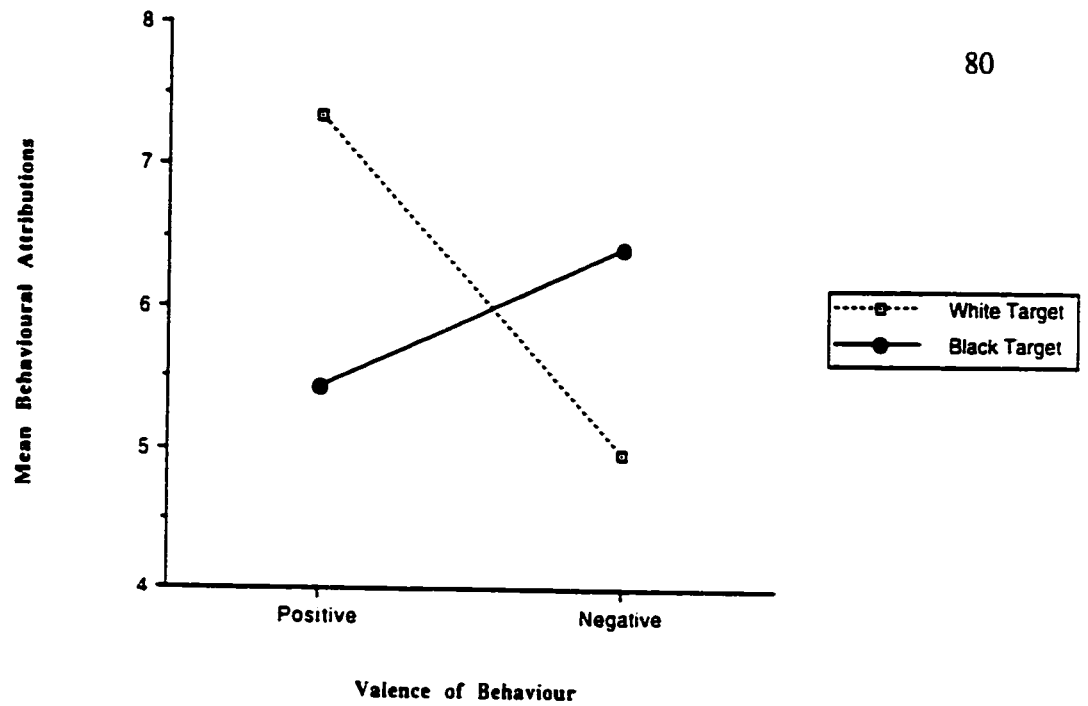
#### Impact of Racial Attitude on Children's Expectations for Cross-Race Peer Encounters

The Racial Expectancy Measure (REM) allowed the examination of children's expectations of peers' behaviour during hypothetical encounters of cross-race peers. It had been hypothesized that, when presented with scenarios of cross-race peer encounters, White children would expect same-race targets to display more positive behaviours than Black targets, and expect Black targets to exhibit more negative behaviours than White ones. It had been further predicted that this would be more true for Higher-Prejudice subjects than for Lower-Prejudice subjects. The question of whether there would be sex differences in the expectations of the White children was also explored. To test these hypotheses, children's positive and negative expectancy scores for White and Black targets were submitted to a 2 (Prejudice level: Higher, Lower) x 2 (Sex of Subject) x 2 (Valence of Expectation: Positive, Negative) x 2 (Race of Target: White, Black) MANOVA, with Valence of Expectation and Race of Target as the repeated factors.

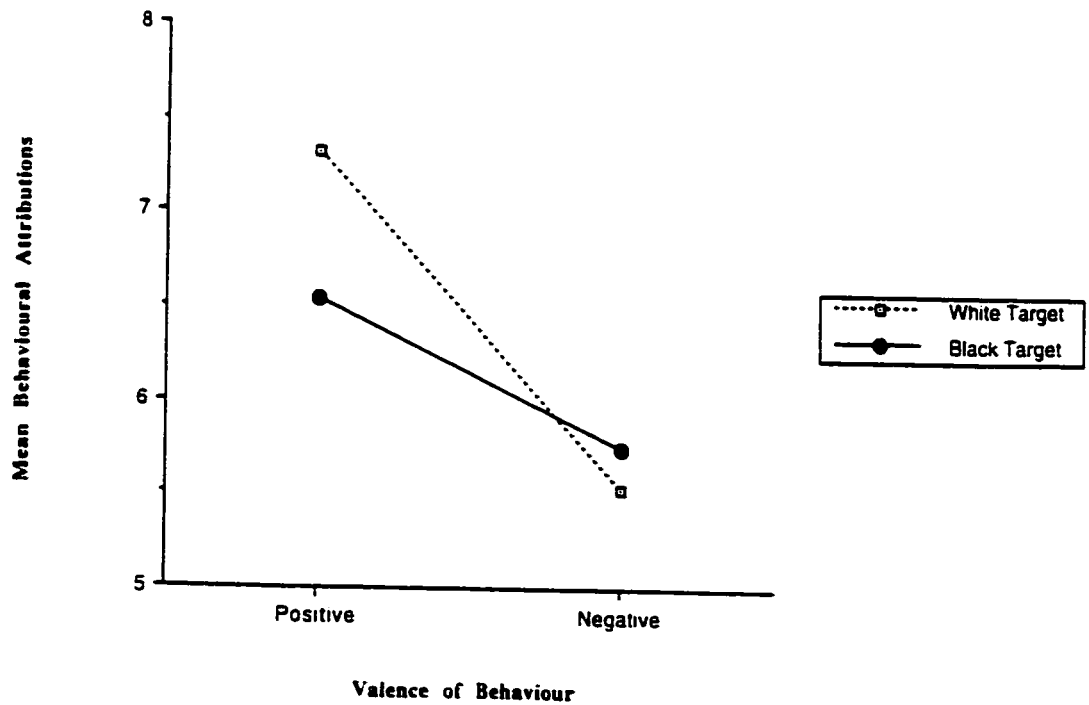
Consistent with the hypotheses, there was a significant two-way interaction between Valence of Expectation and Race of Target,  $F(1, 99) = 20.28, p < .001$ , which was qualified by a three-way interaction between Prejudice Level, Valence of Expectation and Race of Target,  $F(1, 99) = 5.21, p < .05$  (see Figure 2). Follow-up of the three-way interaction revealed that the interaction between Valence of Expectation and Race of Target was significant for Higher-Prejudice subjects,  $F(1, 99) = 20.66, p < .001$ , but not for Lower-Prejudice ones,  $F(1, 99) = 2.78, p = ns$ . Further examination revealed that in cross-race peer contact

### High-Prejudice Children

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### Low-Prejudice Children



**Figure 2.** Mean positive and negative behavioural expectations of High- versus Low-Prejudice children from White and Black Targets on the Racial Expectancy Measure (REM).

situations, Higher-Prejudice subjects expected significantly more positive behaviours from White than from Black targets,  $F(1, 99) = 20.66, p < .001, Ms = 7.35 \text{ vs. } 5.43$ , and expected significantly more negative behaviours from the Black than from the White targets,  $F(1, 99) = 7.86, p < .01, Ms = 6.41 \text{ vs. } 4.96$ . Higher-Prejudice subjects also expected significantly more positive than negative behaviours from White targets,  $F(1, 99) = 21.19, p < .001, Ms = 7.35 \text{ vs. } 4.96$ , but this difference was not significant for Black targets ( $F(1, 99) = 3.33, p > .05, Ms = 5.43 \text{ vs. } 6.41$  for positive and negative behaviours respectively).

Follow-up of the two-way interaction revealed that, on the whole, children expected significantly more positive behaviours from White targets than from Black targets ( $F(1, 99) = 14.51, p < .001, Ms = 7.32 \text{ vs. } 6.04$ ), and expected significantly more negative behaviours from Black targets than from White targets ( $F(1, 99) = 6.55, p < .05, Ms = 6.05 \text{ vs. } 5.27$ ). In addition, children expected significantly more positive than negative behaviours from White targets ( $F(1, 99) = 36.89, p < .001, Ms = 7.32 \text{ vs. } 5.27$ ), but this difference was not significant for Black targets ( $F(1, 99) = .11, p = ns, Ms = 6.04 \text{ vs. } 6.05$ ).

#### Impact of Racial Attitude on Children's Perceptions of Trait Prevalence and of Trait Variance

On the Trait Prevalence measure, children had been asked to indicate the frequency with which members of the White, Black and Native Indian groups possessed five positive and five negative traits. Children had responded by saying whether "none" (0), "few" (1), "some do/some don't (half)" (2), "most" (3), or "all" (4) members of these groups possessed each trait. Only the results pertaining to the White and Black target groups are presented here.

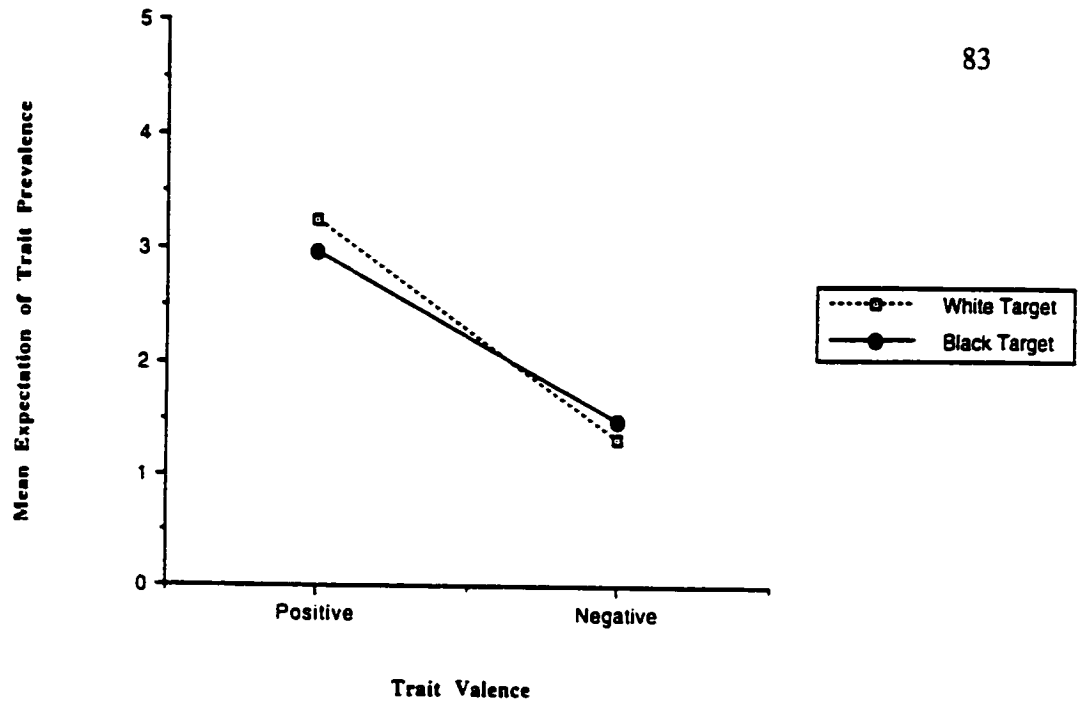
Expectation of Trait prevalence. With regards to children's judgments of the prevalence of positive and negative traits for the White and Black target groups, the

question of interest was whether such expectations would vary as a function of prejudice level and/or sex of the children. Even though Sex of Subject was included as a factor in the analysis, no specific hypotheses had been made with regards to the differential expectations of boys and girls. Children's responses were examined according to the mean positive and negative trait scores attributed to the two target groups. These mean scores were submitted to a 2 (Prejudice level: Higher, Lower) x 2 (Sex of Subject) x 2 (Type of Evaluation: Positive, Negative) x 2 (Race of Target: White, Black) MANOVA, with Type of Evaluation and Race of Target as the repeated factors. The results revealed two three-way interactions: one between Prejudice Level, Type of Evaluation, and Race of Target ( $F(1, 99) = 8.35, p < .005$ ), and another between Sex of Subject, Prejudice Level, and Type of Evaluation ( $F(1, 99) = 7.41, p < .01$ ). Only the former interaction had been predicted. The other significant results, a main effect for Type of Evaluation ( $F(1, 99) = 353.75, p < .001$ ) and an interaction between Sex of Subject and Type of Evaluation ( $F(1, 99) = 4.67, p < .05$ ), were both subsumed by the higher-order interactions.

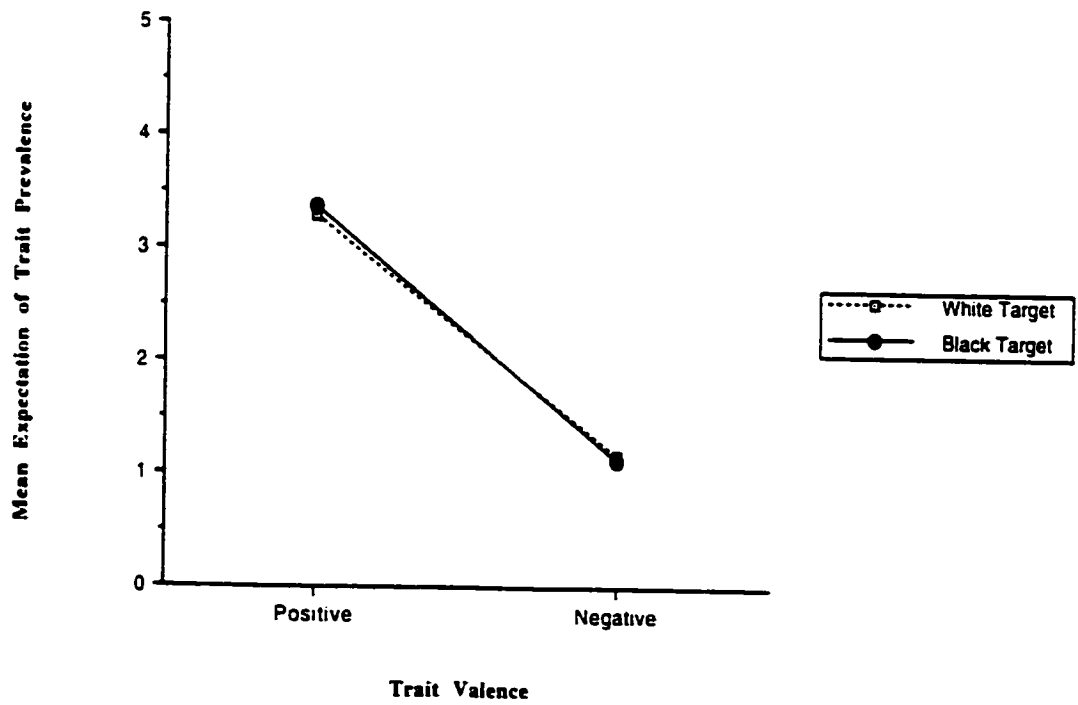
Largely consistent with the hypothesis, follow-up of the Prejudice Level x Type of Evaluation x Race of Target interaction revealed a significant interaction between Type of Evaluation and Race of Target for Higher-Prejudice subjects ( $F(1, 99) = 8.50, p < .01$ ), but not for Lower-Prejudice subjects ( $F(1, 99) = 1.14, p = ns$  (see Figure 3). Looking at the Higher-Prejudice children only, examination of the main effect of Race of Target for Positive and Negative evaluations separately revealed that these children expected a significantly larger number of Whites than Blacks to have positive traits ( $M_s = 3.24$  vs.  $2.96$ , respectively,  $F(1, 99) = 6.45, p < .05$ ), but they did not perceive a significant difference between the White and Black groups on the Negative traits ( $M_s = 1.31$  vs.  $1.47$ , respectively,  $F(1, 99) = 2.5, p > .05$ ).

### High-Prejudice Children

83



### Low-Prejudice Children

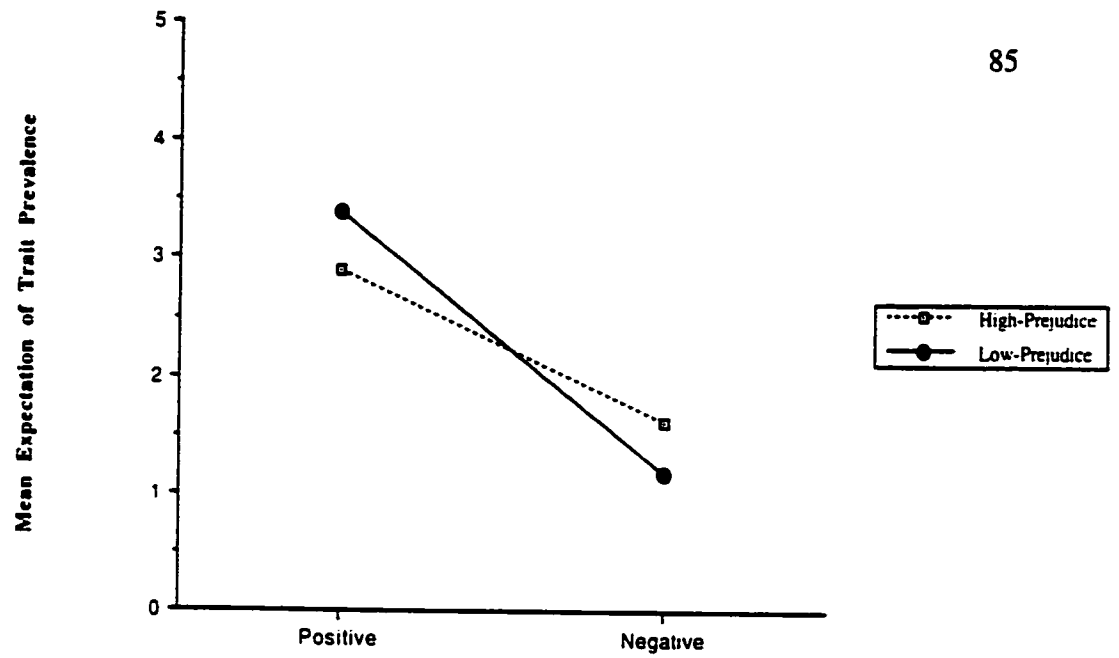


**Figure 3.** Mean expectations of High- versus Low-Prejudice children regarding the prevalence of positive and negative traits in White and Black groups.

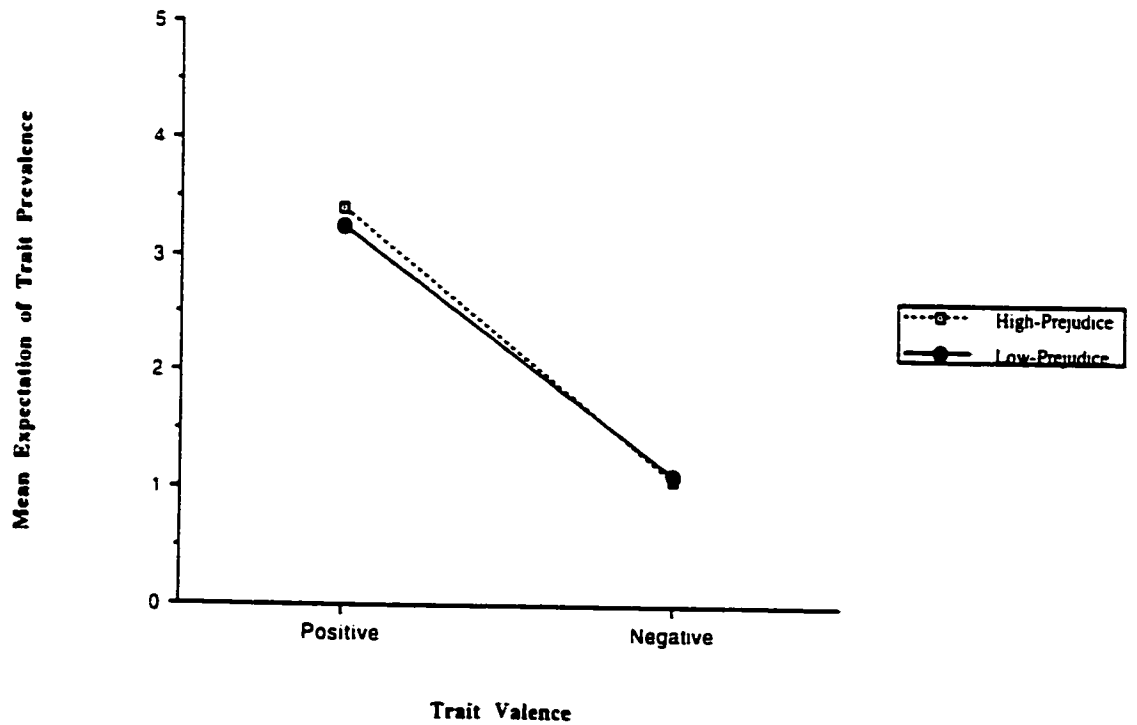
Interestingly, the standard deviation related to Positive-White attributions for these Higher-Prejudice children was much lower ( $SD = .54$ ) than the standard deviations for Positive-Black ( $SD = .86$ ), Negative-White ( $SD = .71$ ), and Negative-Black ( $SD = .84$ ) attributions. This could indicate that Higher-Prejudice children perceive members of the White group to vary much less with regards to Positive traits than members of the Black group. Indeed, the minimum rating given to Whites on the Positive traits was 2.40 (close to some do/some don't), whereas the minimum rating to Blacks was zero (none). Nevertheless, much like on the MRA, even these Higher-Prejudice children believed that a significantly larger number of both Whites and Blacks possess positive than negative traits ( $F(1, 99) = 406.82, p = .0001$  for White, and  $F(1, 99) = 257.64, p < .0001$  for Black).

Follow-up of the significant Sex of Subject X Prejudice Level X Type of Evaluation interaction revealed a significant interaction between Prejudice level and Type of Evaluation for boys ( $F(1, 99) = 9.75, p < .005$ ), but not for girls ( $F(1, 99) = .44, p > .05$ ) (see Figure 4). Follow-up analyses revealed that HP boys expected significantly fewer individuals within groups (i.e., regardless of race) to possess Positive traits than did LP boys ( $M_s = 2.89$  vs. 3.40, respectively,  $F(1, 99) = 10.30, p < .005$ ), and expected significantly more individuals within groups to possess Negative traits than did Lower-Prejudice boys ( $M_s = 1.61$  vs. 1.16, respectively,  $F(1, 99) = 5.54, p < .05$ ). Nevertheless, both HP and LP boys expected significantly more people (regardless of race) to have positive than negative traits ( $t(26) = 5.55, p < .0001, M_s = 2.89$  vs. 1.61, for HP boys, and  $t(26) = 11.54, p < .0001, M_s = 3.40$  vs. 1.16, for LP boys).

To summarize, the results of the above analyses were partly consistent with the hypotheses in that Higher-Prejudice children expected a larger number of Whites than Blacks to have positive traits. They did not, however, expect a larger number of Blacks than Whites to have negative traits. There were also sex differences in children's expectations: Higher-Prejudice boys expected fewer people in both racial groups to have positive traits than



Trait Valence  
Girls



**Figure 4.** Mean expectations of High- and Low-Prejudice boys versus girls regarding the prevalence of positive and negative traits (across racial groups).

did the Lower-Prejudice boys, and also expected that negative traits would be more prevalent across both racial groups than did Lower-Prejudice boys. There were no such significant differences for Higher- versus Lower-Prejudice girls.

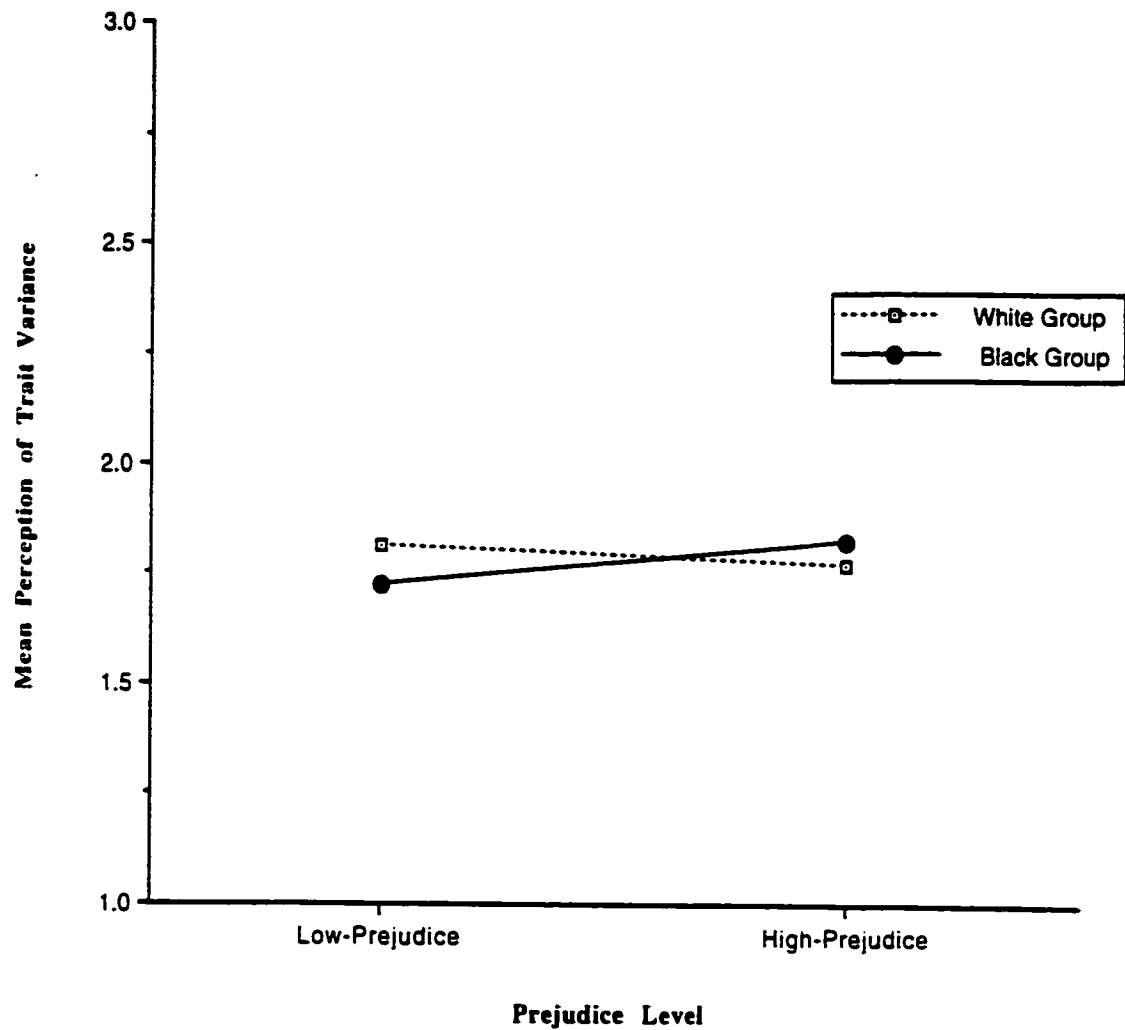
Perception of within-group trait variance. Children's responses to the Trait Prevalence measure were also used to examine their perception of trait variance within each target group. The questions of interest were (a) whether White children would perceive members of their own group to vary more on traits than members of the outgroup (Blacks), and (b) whether such perceptions would vary according to prejudice level and or sex. For this purpose, children's responses on the Trait Prevalence measure were recoded into three categories: "All" and "None" responses were recoded as 1 (perception of no variance), "Few" and "Most" were recoded as 2 (perception of some variance) and "Some do/some don't (or Half)" were recoded as 3 (perception of large variance). Low scores therefore indicated lower perception of within-group trait variance (or higher use of "all/none" responses). In this way, scores were obtained for the perception of variance on Positive-White, Positive-Black, Negative-White and Negative-Black traits.

These four scores (i.e., Positive-White, Positive-Black, Negative-White and Negative-Black) were found to be significantly and positively correlated with one another, ranging from  $r = .36$  ( $p < .001$ ) to  $r = .69$  ( $p < .001$ ). Based on these correlations, it appears that children's tendency to perceive variance between members of their own (i.e., White) group on both positive and negative traits was strongly and significantly related to their perception of trait variance for members of the Black group ( $r = .69$  for between Positive-White and Positive-Black, and  $r = .56$  for between Negative-White and Negative-White). In addition, the tendency of children to perceive within-group variance on positive traits was strongly related to their perception of within-group variance on negative traits; the correlation between Positive-White and Negative-White was  $r = .46$  ( $p < .001$ ) and the correlation between Positive-Black and Negative-Black was  $r = .42$  ( $p < .001$ ). These



correlations suggest that the perception of within-group trait variance might be a general tendency, that is, one that runs across target group and type of evaluation. For the purposes of testing the hypotheses, however, two mean scores, Within-W and Within-B, were used to represent children's perception of within-group variance for Whites and Blacks, respectively. These scores cut across trait valence, but not across race.

It had been hypothesized that, overall, these White children would perceive more trait variance for their own group than for the Black group (i.e., give less "all/none" responses with regard to White targets than with regard to Black targets, across positive and negative traits), but that this would be mainly true for Higher-prejudice children, rather than for Lower-prejudice ones. Children's responses were submitted to a 2 (Prejudice Level toward Black group: Higher, Lower)  $\times$  2 (Sex of Subject)  $\times$  2 (Target Group: White, Black) MANOVA, with Target Group as the repeated factor. Results of this analysis revealed a significant 2-way interaction between Prejudice Level and Race of Target,  $F(1, 99) = 5.89, p < .05$ . Follow-up analyses revealed that the responses of Lower- and Higher-Prejudice children differed significantly for Black targets,  $F(1, 99) = 5.80, p < .05$ , but not for White targets,  $F(1, 99) = .80, p > .05$  (see Figure 5). Contrary to the hypothesis, Lower-Prejudice subjects leaned significantly more toward "all/none" responses for the Black group than did the Higher-Prejudice subjects ( $M_s = 1.72$  vs.  $1.82$ , respectively). Lower-prejudice children were also found to perceive significantly less within-group variance for the Black group than for the White group ( $M_s = 1.72$  vs.  $1.81$ ,  $F(1, 99) = 4.00, p < .05$ ), but the Higher-Prejudice children did not perceive a significant difference between the two target groups ( $M_s = 1.82$  vs.  $1.77$ ,  $F(1, 99) = 1.8, p > .05$ ). Based on these results, it appears that the Lower-Prejudice children perceived very few members of the Black group as having negative qualities and almost all as having positive qualities.



**Figure 5.** High- and Low-Prejudiced children's mean perceptions of within-group trait variance for Whites and Blacks. Lower mean scores represent perceptions of less within-group variance (1 = "all" or "none" responses, 2 = "some" or "most" responses, and 3 = "half" ("some do/some don't") responses).

To summarize, the above results revealed that although children's perceptions of within-group variance varied as a function of prejudice level, it did so in a direction that was contrary to the hypotheses. That is, LP subjects perceived less trait variance for the Black group than for the White group (i.e., gave more all/none responses for Blacks), but HP subjects did not. LP subjects also gave significantly more all/none ratings for Blacks than did HP subjects. That is, LP subjects tended to say that "all" Blacks had positive traits and that "none" had negative traits.

#### Impact of Racial Attitude on Children's Readiness to Make Evaluative Decisions about White and Black Targets

Do children vary in the speed with which they make evaluative decisions about others belonging to their own vs. other racial groups? Does their speed vary as a function of their prejudice level? Based mainly on previous studies with adults, the assumption in this study was that the rapidity with which children make such evaluative decisions would be an indication of the strength of association between certain evaluative traits and the two racial categories, and, hence, would be an indication of the accessibility of the constructs being considered by these children. It had been hypothesized, for example, that the response latencies of children would vary both as a function of the race of targets and of the favorability of the traits, but the direction of these results had not been predicted. With regard to individual differences related to prejudice level, it had been predicted that children who had been categorized as Lower- and Higher-prejudice on the MRA would differ in the readiness with which they made evaluative decisions about White and Black targets, but again, the direction of such differences had not been predicted.

#### Relationship between prejudice level, academic abilities, and response latencies.

Prior to the examination of possible differences between LP and HP children on the response latency measure, the possibility was tested that prejudice level and reaction times could be related to children's academic abilities, and that this could have possibly affected

their performance. Since the questions had been presented auditorally to the children (via the computer), the procedures had not required the children to write or read for the purposes of the study. Nevertheless, classroom teachers had been asked to rate the children on their general academic abilities (GENAC), as well as, more specifically on their reading, writing and mathematical skills.

To test whether general academic ability varied as a function of prejudice level and/or of sex, the GENAC variable was subjected to a 2 (Prejudice Level: Higher, Lower) x 2 (Sex) analysis of variance. The results revealed no significant main effects nor interactions (e.g.,  $F(1, 97) = .23$ ,  $p = \text{ns}$  for Prejudice Level, and  $F(1, 97) = 1.40$ ,  $p = \text{ns}$  for Sex). The results of correlations between children's MRA W/B Composite scores and the various teacher ratings indicated that prejudice was not significantly related to any of the academic abilities that were assessed ( $r_s = -.04, -.08, -.17$ , and  $.05$  for GENAC, reading, writing, and math, respectively). Nor was reaction time significantly related to any of the academic abilities (range of  $r = -.08$  to  $.02$ ,  $p_s > .05$ ).

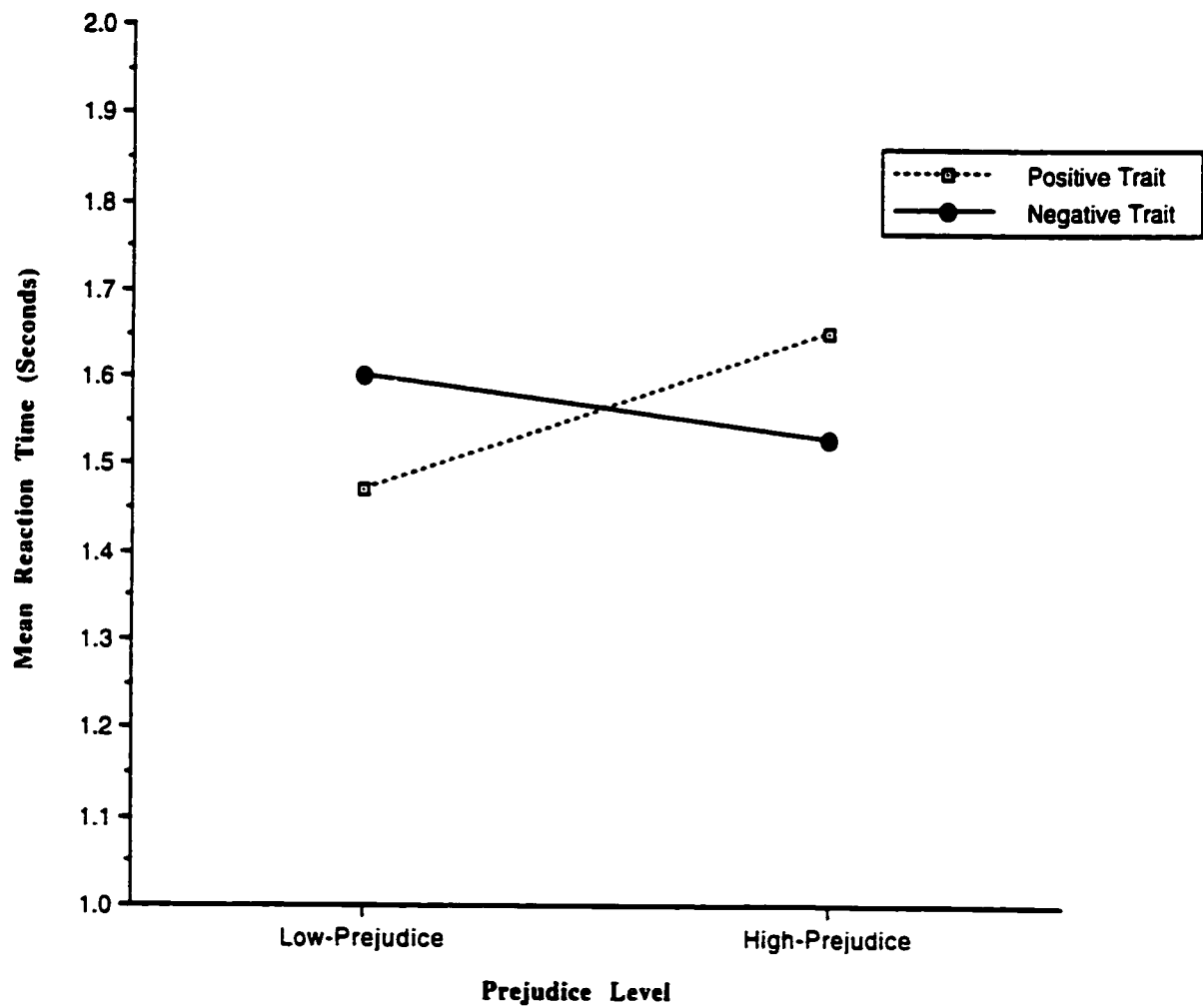
Finally, in order to examine whether children's response latencies in the decision-making task varied as a function of their General Academic Abilities and/or of their Sex, children's overall reaction times were subjected to a 2 (GENAC Level: High vs. Low) x 2 (Sex of Subject) Analysis of Variance. High GENAC meant that children had scored at or above the mean on the GENAC variable (i.e.,  $M = 3.4$ ), whereas, Low Genac meant that they had scored below this mean. There were no significant main effects nor interactions obtained from this analysis, indicating that the reaction times of the subjects were rather independent of their sex and of their academic abilities (e.g.,  $F(1, 97) = .14$ ,  $p > .05$  for GENAC, and  $F(1, 97) = .76$ ,  $p = \text{ns}$  for Sex).

Analysis of Children's Response-Latencies. To test the main hypotheses about the speed with which Higher- and Lower-prejudice children made evaluative decisions about White and Black targets, reaction times were submitted to a 2 (Prejudice level: Higher,

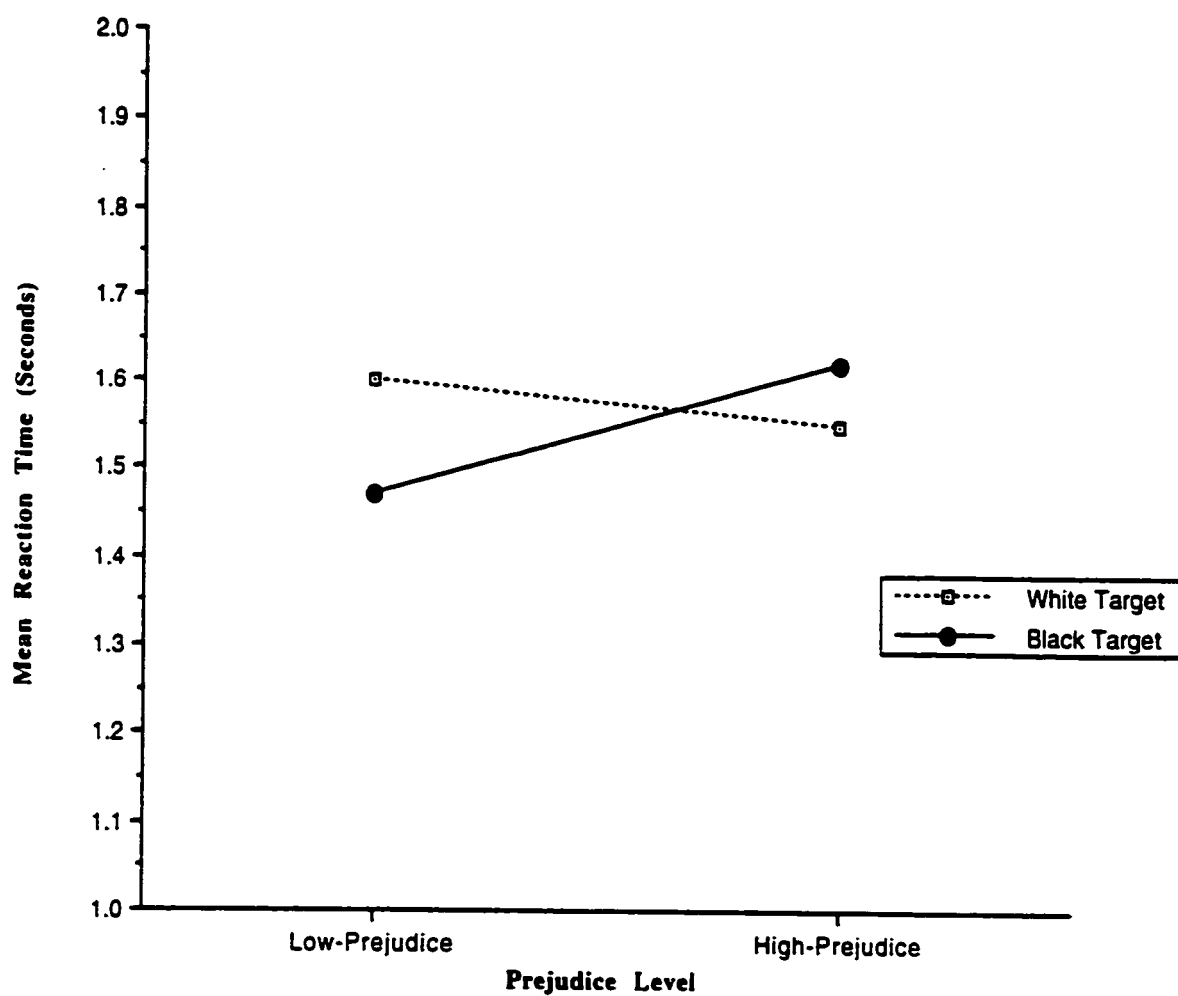
Lower) x 2 (Sex of Subject) x 2 (Type of Evaluation: Positive, Negative) x 2 (Race of Target: White, Black) MANOVA, with Type of Evaluation and Race of Target as the repeated factors. Contrary to expectations, the results indicated that there was no significant difference in the readiness with which Higher- vs. Lower-Prejudice children made decisions about positive vs. negative qualities belonging to White vs. Black targets (i.e., no significant 3-way interaction between Prejudice Level, Race of Target and Type of Evaluation). There were, however, three other significant interactions: One between Prejudice Level and Type of Evaluation,  $F(1, 99) = 4.04, p < .05$ , another between Prejudice Level and Race of Target,  $F(1, 99) = 4.27, p < .05$ , and a third between Sex of Subject and Race of Target,  $F(1, 99) = 3.97, p < .05$ .

Post-hoc follow-up of the Prejudice Level by Type of Evaluation interaction revealed that, across both Targets, HP children made decisions more quickly about negative attributes than about positive ones ( $M_s = 1.53$  vs.  $1.65, F(1, 99) = .86, p > .05$ ), whereas, LP children made decisions more quickly about positive attributes than about negative ones ( $M_s = 1.60$  vs.  $1.47, F(1, 99) = 1.23, p > .05$ ) (see Figure 6). None of the one-way comparisons of the means, however, were significant. Although this specific result had not been predicted, it indicates that Higher and Lower prejudice children differed in the readiness with which they make decisions about positive versus negative traits, irrespective of the target group that is being evaluated.

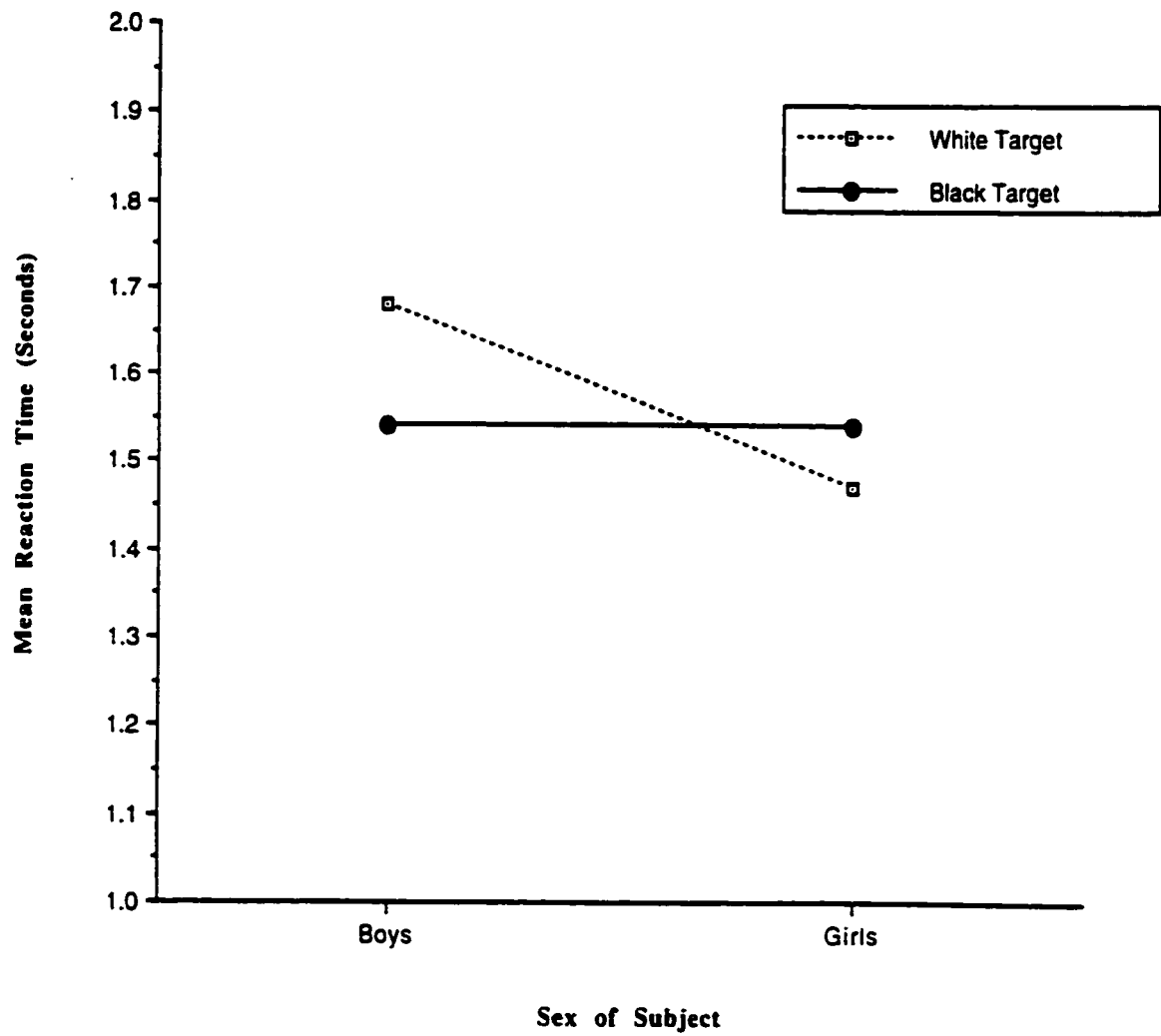
Examination of the Prejudice Level by Race of Target interaction revealed that HP children made decisions more quickly about White targets than about Black ones ( $M_s = 1.55$  vs.  $1.62, F(1, 99) = .30, p > .05$ ), whereas, LP children made decisions more quickly about Black targets than about White targets ( $M_s = 1.47$  vs.  $1.60, F(1, 99) = 1.85, p > .05$ ) (see Figure 7). None of the one-way comparisons between the means, however, were significant.



**Figure 6.** Mean response-latencies of High- versus Low-Prejudice children to evaluatively negative and positive questions about targets (across racial group).



**Figure 7.** Mean response-latencies of High- versus Low-Prejudice children to questions about White and Black Targets.



**Figure 8.** Mean response-latencies of boys versus girls to questions about White and Black Targets.



Finally, follow-up of the Sex of Subject by Race of Target interaction revealed that boys responded more quickly to questions about Black targets than about White targets ( $M_s = 1.54$  vs.  $1.68$ ,  $F(1, 99) = 1.60$ ,  $p > .05$ ), whereas, girls responded more quickly to questions about White targets than about Black ones ( $M_s = 1.47$  vs.  $1.54$ ,  $F(1, 99) = .54$ ,  $p > .05$ ) (see Figure 8). Again, none of the differences between the means were significant.

#### Relationships Between the Different Measures of Group Perception

Examination of relationships between the different measures of racial attitude within a single study was another important aim of this investigation. For the purposes of the analyses, each measure was represented by a single score. The Composite scores for the Stereotyping and Racial Expectancy Measures were calculated much in the same way as the MRA Composite score (i.e., Composite Score = Bias - Counterbias). For the Expectation of Trait Prevalence measure, a Positive Trait Prevalence (PTP) score was calculated by subtracting the extent to which positive traits were attributed to Blacks (Positive-Black) from the extent to which positive traits were attributed to Whites (Positive-White). A Negative Trait Prevalence (NTP) score was derived by subtracting negative traits attributed to Whites (Negative-White) from negative traits attributed to Blacks (Negative-Black) (cf. Bigler et al., 1997). Because positive scores, for both PTP and NTP, were an indication of greater bias against Blacks, and because the correlation between these two scores was found to be  $r = .44$ , these two scores were summed to yield a Composite Trait Prevalence (CTP) score.

The perception of trait variance within groups was represented by the index of children's perception of trait variance for the Black group only (WTVB, i.e., their tendency to give "all"/"none", "few"/"most", or "half" responses across positive and negative traits for Blacks). For children's response latencies to the evaluative questions about Whites and Blacks, a difference score (RT B-W) was created by subtracting children's reaction times to questions about Whites from their reaction times to questions about Blacks. Higher scores, therefore, represented children's longer response latencies for Black versus White targets.

First, in looking at the intercorrelations between the measures which assessed the content of racial attitudes, it was found that although the MRA and the Racial Expectancy Measure were significantly related to one another ( $r = .24, p < .05$ ), neither of these measures were significantly related to the Stereotyping measure ( $r = .02$  with the MRA, and  $r = .09$  with the Racial Expectancy Measure,  $ps > .05$ ) (see Table 5). Indeed, the Stereotyping measure was the only measure without any significant correlations with the other attitude measures. On the other hand, both the MRA and the Racial Expectancy Measure were significantly correlated with the Composite Trait Prevalence Score ( $r = .39, p < .001$  with the MRA, and  $r = .26, p < .01$  with the REM). That is, children who had higher prejudice toward Blacks on the MRA expected more negative behaviours from Black hypothetical peers in cross-race peer contact situations and also perceived more differences between Whites and Blacks across positive and negative traits. When the Composite Trait Prevalence score was broken into its Positive and Negative component scores (i.e., PTP and NTP), the MRA Composite score was found to be more strongly correlated with the PTP score ( $r = .43$ ) than with the NTP score ( $r = .25$ ). That is, children's biased attitudes toward Blacks on the MRA were more strongly correlated with the expectation that a greater number of Whites than Blacks have positive traits, than with the perception that a greater number of Blacks than Whites have negative traits.

Perception of trait variance within the Black group (i.e., WTVB) was significantly correlated with the Composite Trait Prevalence score ( $r = .27, p < .01$ ), but not with any other summary measure in this study. That is, children who perceived more between-group differences in terms of the prevalence of their positive and negative traits (in the direction of Bias against Blacks), perceived more trait variance within the Black group (i.e., tended to give less all/none responses to Blacks). That is, contrary to the hypotheses, children who expected less differences between Blacks and Whites, in terms of the prevalence of positive and negative traits (i.e., those who had less bias toward Blacks),

were more likely than the biased children to say that “none” of the members of the Black group had negative traits and that “all” had positive traits.

The difference score for children’s reaction times to Black vs. White targets (RT B-W) was only significantly correlated with the MRA Composite score ( $r = .22, p < .05$ ). Children who had higher prejudice scores against Blacks on the MRA took longer to respond to questions about Black than toward White targets, across evaluative dimensions. RTB-W had very low and nonsignificant correlations with the other measures in this study ( $r$ ’s ranging from .02 to .15,  $ps > .05$ ).

### Relationships Between the Different Measures of Peer Preference

A goal of this study was the examination of relationships between various peer preference measures. Were the peer preference measures used in the current study tapping similar constructs? Would children’s ratings on one measure of liking for hypothetical peers (i.e., liking of unknown Targets) be positively and significantly related to another measure of liking for hypothetical peers (i.e., liking of hypothetical “Buddies”)? Would liking for hypothetical peers be significantly related to liking for actual peers? Would data obtained from the liking ratings be highly related to the ranking data?

Examination of the relationship between children’s liking ratings for the White peers (i.e., White Targets, White hypothetical “Buddies” and White actual peers) revealed significant, positive correlations between all three measures ( $r = .37$  for between hypothetical Targets and Buddies,  $r = .28$  for hypothetical Targets and Actual Peers, and  $r = .33$  for hypothetical Buddies and Actual Peers,  $ps < .005$ ) (see Table 6). Of the three liking measures, only liking for White hypothetical “Buddies” was significantly correlated with the number of Black “Buddies” that were placed in the top three ranks ( $r = -.29, p < .005$ ). Those children who had given higher liking ratings to the White buddies tended to have fewer Black “Buddies” ranked within the top three.

Table 5

**Relationships between the Different Measures of Group Perception**

	N = 103					
	1	2	3	4	5	6
1. MRA	—	.24**	.02	.39***	.14	.22*
2. Racial Expectancy Measure		—	.09	.26**	.05	.18
3. Stereotyping Measure			—	.05	.05	.02
4. Trait Prevalence Measure				—	.27**	.15
5. Trait Variance Within Black Group					—	.08
6. Reaction Time Measure (RTB - RTW)						—

Note. Two-tailed probability:  
 \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

Table 6

**Relationships between Different Peer Preference Measures**

	1	2	3	4	5	6	7
1. Liking for White unknown Targets	—	.37*** (102)	.28** (102)	.49*** (102)	.29** (102)	.33** (75)	-.03 (102)
2. Liking for White unknown Buddies		—	.32*** (103)	.19 (102)	.31*** (103)	.28* (75)	-.29** (103)
3. Liking for White actual peers			—	.08 (102)	.34*** (103)	.48*** (75)	.01 (103)
4. Liking for Black unknown Targets				—	.29** (102)	.13 (75)	.30** (102)
5. Liking for Black unknown Buddies					—	.19 (75)	.24* (103)
6. Liking for non-White actual peers						—	.03 (75)
7. Ranking of Black unknown Buddies							—

Note. Number in parentheses represents number of subjects for each correlation.  
 \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$  (Two-tailed probability)

As also shown in table 6, examination of the relationships between children's liking ratings for Black and Non-White peers (i.e., Black Targets, Black hypothetical "Buddies", and Non-White actual peers) revealed a significant correlation between liking of hypothetical Targets and of hypothetical "Buddies" ( $r = .29, p < .005$ ). These two liking ratings were not, however, significantly related to liking for actual Non-White peers ( $r = .19$  between actual peers and hypothetical "Buddies" and  $r = .13$  between actual peers and hypothetical Targets,  $ps > .05$ ). Ranking of the Black "Buddies" was significantly related to liking for hypothetical Black Targets ( $r = .30, p < .005$ ) and to liking of hypothetical Black "Buddies" ( $r = .24, p < .015$ ), but not to the liking of actual Non-White peers ( $r = .03, p = ns$ ). That is, children who gave higher liking ratings to hypothetical Black "Buddies" and Targets ranked a greater number of Black "Buddies" in the top 3.

#### Preferences for White versus Black, Known and Unknown Peers

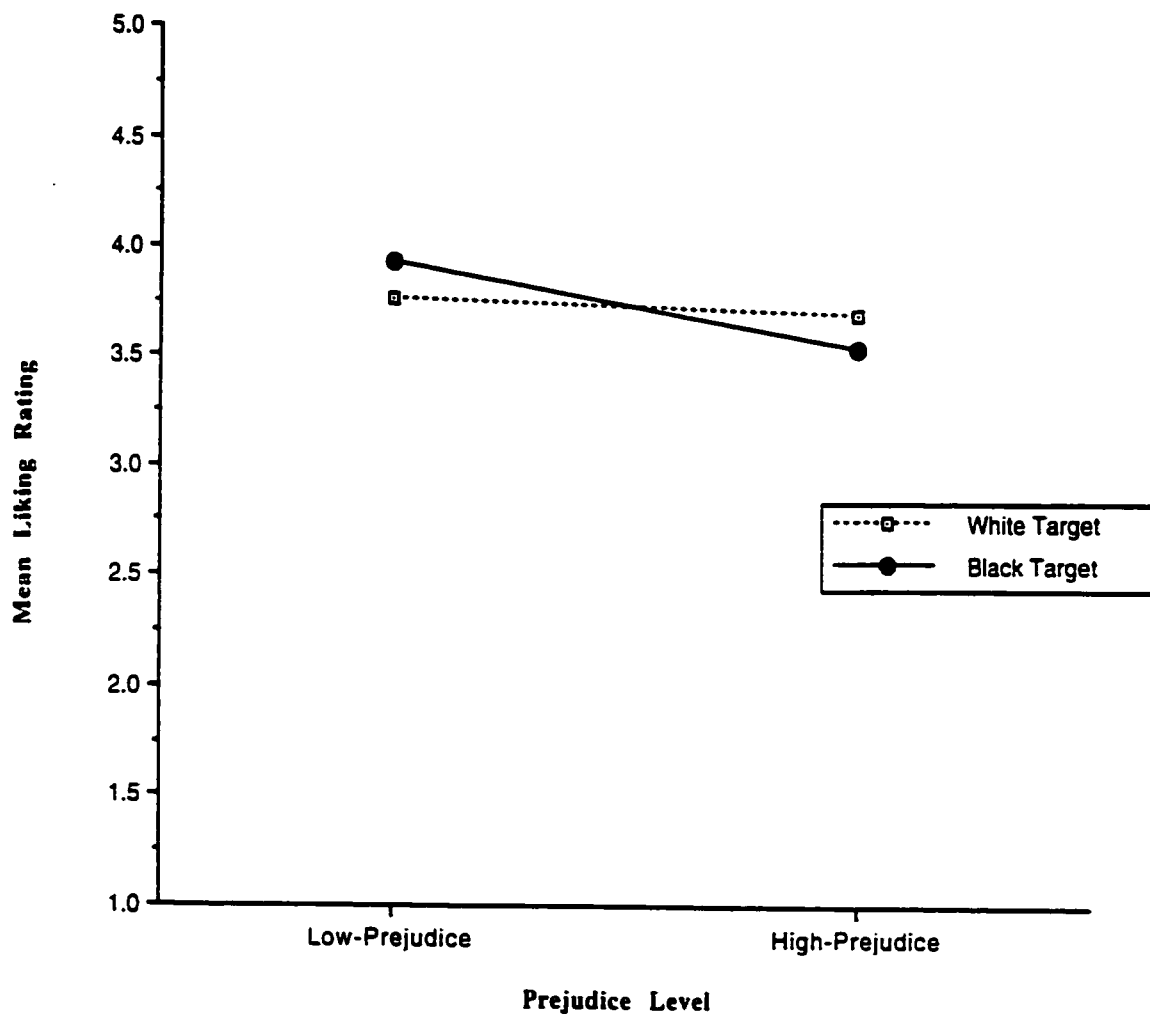
The following section presents results pertaining to the relationship between prejudice level and expressed preferences for hypothetical and real peers belonging to different racial groups. Some questions of interest were (a) whether children's liking for same- vs. cross-race targets and peers would vary according to prejudice level and/or sex, (b) whether the results would differ according to the type of peer preference measure that was used (e.g., assessment of liking for hypothetical vs. real peers, and assessment of liking for hypothetical peers vs. ranking of hypothetical peers), and (c) whether children's ranking of same- vs. cross-race targets, according to their preference for meeting them, would vary according to prejudice level.

#### Liking of individual White and Black unknown peers as a function of prejudice level.

As may be recalled, the children in this study had been asked to rate individual White and Black hypothetical peers, whom they had seen and made decisions about on the computer, in terms of how much they liked them (i.e., how much they thought they might like to

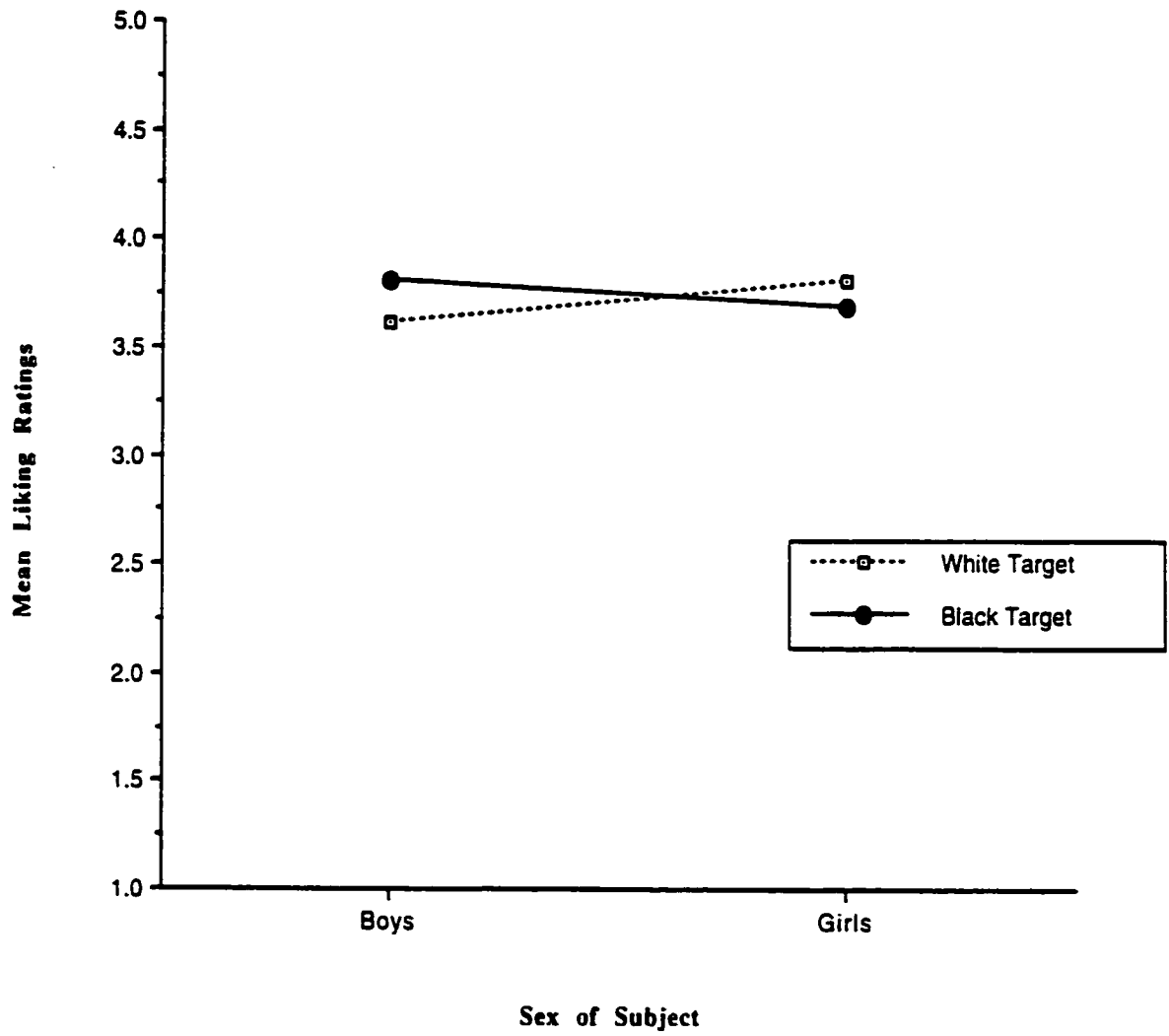
“play with,” “be friends with,” “work with,” and “invite home” these peers). First, it had been predicted that children’s liking for White targets would be significantly and negatively related to their liking for the Black targets. Contrary to this prediction, the correlations obtained between the liking ratings revealed a significant but positive relationship between children’s liking of White and Black targets ( $r = .49, p < .0001$ ). That is, higher liking for White targets was related to higher liking for Black targets.

Second, it had been predicted that liking for White and Black targets would vary as a function of prejudice level, such that, Higher-Prejudice children would give higher liking ratings to White than to Black targets, but this would not be the case for Lower-Prejudice children. The question had also been asked as to whether boys and girls would differ in their liking of Black and White targets. Based on previous research, it had been predicted that perhaps girls would show more ingroup preference than boys. Mean liking ratings for White and Black targets were, thus, submitted to a 2 (Prejudice level: Higher, Lower) x 2 (Sex of Subject) x 2 (Race of Target: White, Black) MANOVA, with Race of Target as the repeated factor. Results of this analysis revealed two significant interactions, one between Prejudice Level and Race of Target ( $F(1, 99) = 5.06, p < .05$ ), and another between Sex of Subject and Race of Target ( $F(1, 99) = 5.70, p < .05$ ). Results of the follow-up of the Prejudice Level x Race of Target interaction were partly consistent with the hypotheses. Specifically, the liking ratings of Higher- and Lower-Prejudice children differed for Black targets ( $F(1, 98) = 10.81, p < .01$ ), but not for White targets ( $F(1, 98) = .33, p > .05$ ). Black targets were given significantly higher liking ratings by Lower-Prejudice children than by Higher-Prejudice ones ( $M_s = 3.92$  vs.  $3.52$ ) (see Figure 9). Despite this difference, it is important to note that the mean liking scores of both Higher- and Lower-Prejudice children for the Black targets fell close to the “like” response category. No other significant differences were found.



**Figure 9.** Mean liking ratings of High- versus Low-Prejudice children for Black and White unknown peers (Targets).

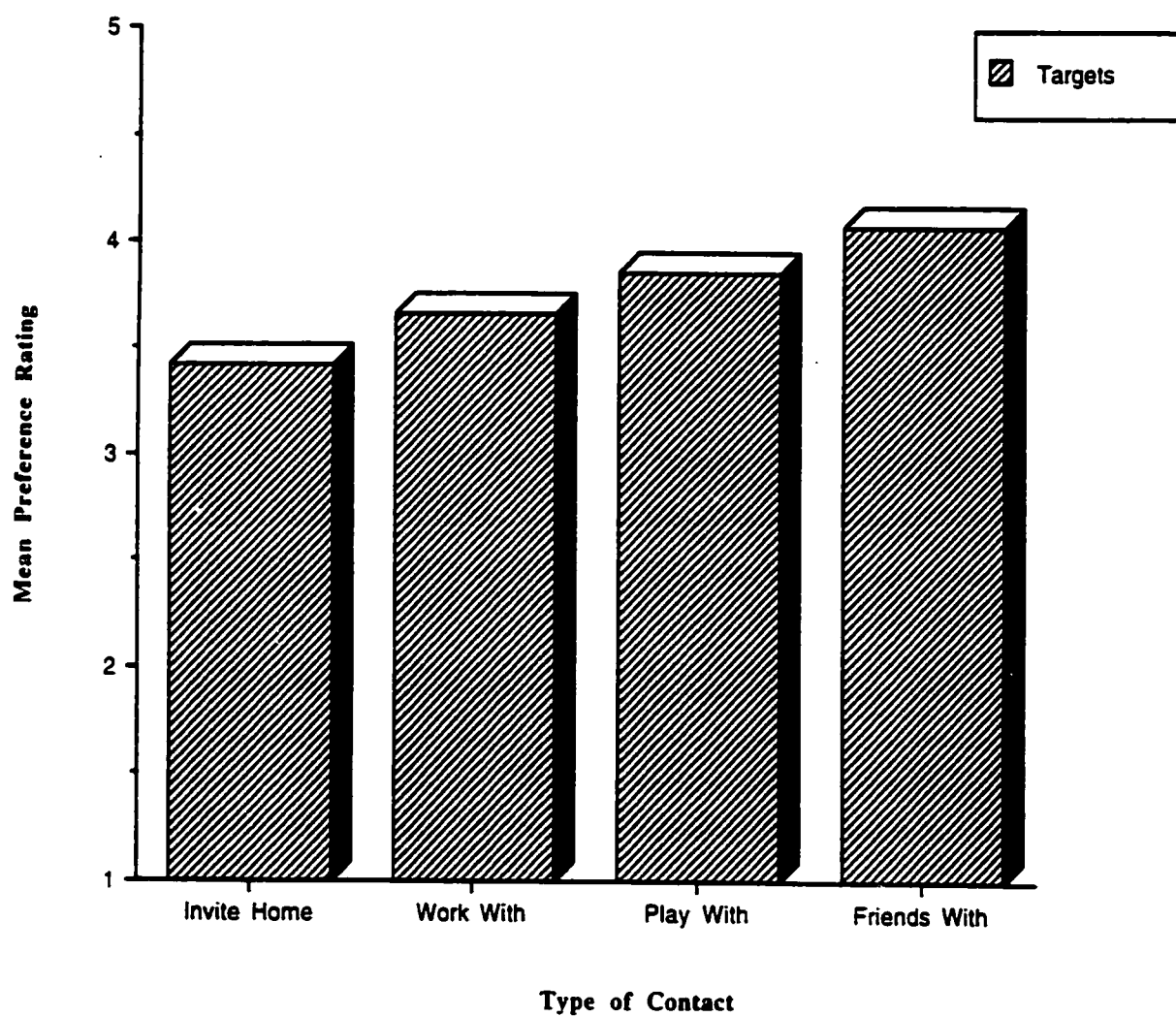




**Figure 10.** Mean liking ratings of boys versus girls for Black and White unknown peers (Targets).

Follow-up of the interaction between Sex of Subject and Race of Target revealed that, on the whole, boys gave somewhat higher liking ratings to Black targets than to White targets ( $M_s = 3.80$  vs.  $3.61$ ,  $F(1, 98) = 2.63$ ,  $p > .05$ ), whereas, girls gave somewhat higher ratings to White targets than to Black targets ( $M_s = 3.80$  vs.  $3.68$ ,  $F(1, 98) = 3.07$ ,  $p > .05$ ). Similarly, Black targets were liked more by boys than by girls, whereas, White targets were liked more by girls than by boys, although not significantly so (see Figure 10). Even though none of the one-way comparisons between the means were significant, these results were in the predicted direction.

Finally, it had been hypothesized that there would be differences between Higher- and Lower-Prejudiced children in terms of their preferences for different types of contact with the Black targets, as assessed by the different types of liking questions. It had been reasoned, for example, that HP children might prefer the types of contact that involve less of a commitment on their part, or more social distance with the target, such as working with Black targets, rather than inviting them home, but that the opposite would be true for LP children, but no more specific predictions had been made in this regard. Children's four liking scores for Black targets were thus submitted to a 2 (Prejudice Level: Higher, Lower)  $\times$  2 (Sex of Subject)  $\times$  4 (Type of Liking: Play, Friends, Work, Invite) Anova, with Type of Liking as the repeated factor. The results revealed two significant main effects, one for Prejudice Level ( $F(1, 97) = 5.38$ ,  $p < .05$ ), which was the same result as the one obtained above, and the other for Type of Liking ( $F(3, 291) = 14.40$ ,  $p < .001$ ). Contrary to the hypothesis, there was no significant interaction between Prejudice Level and Type of Liking. Follow-up of the main effect for Type of Liking revealed that, across Prejudice Level and Sex of subject, children gave the highest rating to being "friends with" ( $M = 4.06$ ), followed by "playing with" ( $M = 3.85$ ), "working with" ( $M = 3.65$ ), and "inviting home" ( $M = 3.42$ ) the Black targets (see Figure 11). All pairwise comparisons between the means were significant ( $p_s < .05$ ). Again, however, it is important to note that children's ratings for the different type of liking were all above the midpoint of the 5-point rating scale.



**Figure 11.** Children's mean preference ratings for different types of contact with unknown peers (across racial groups).

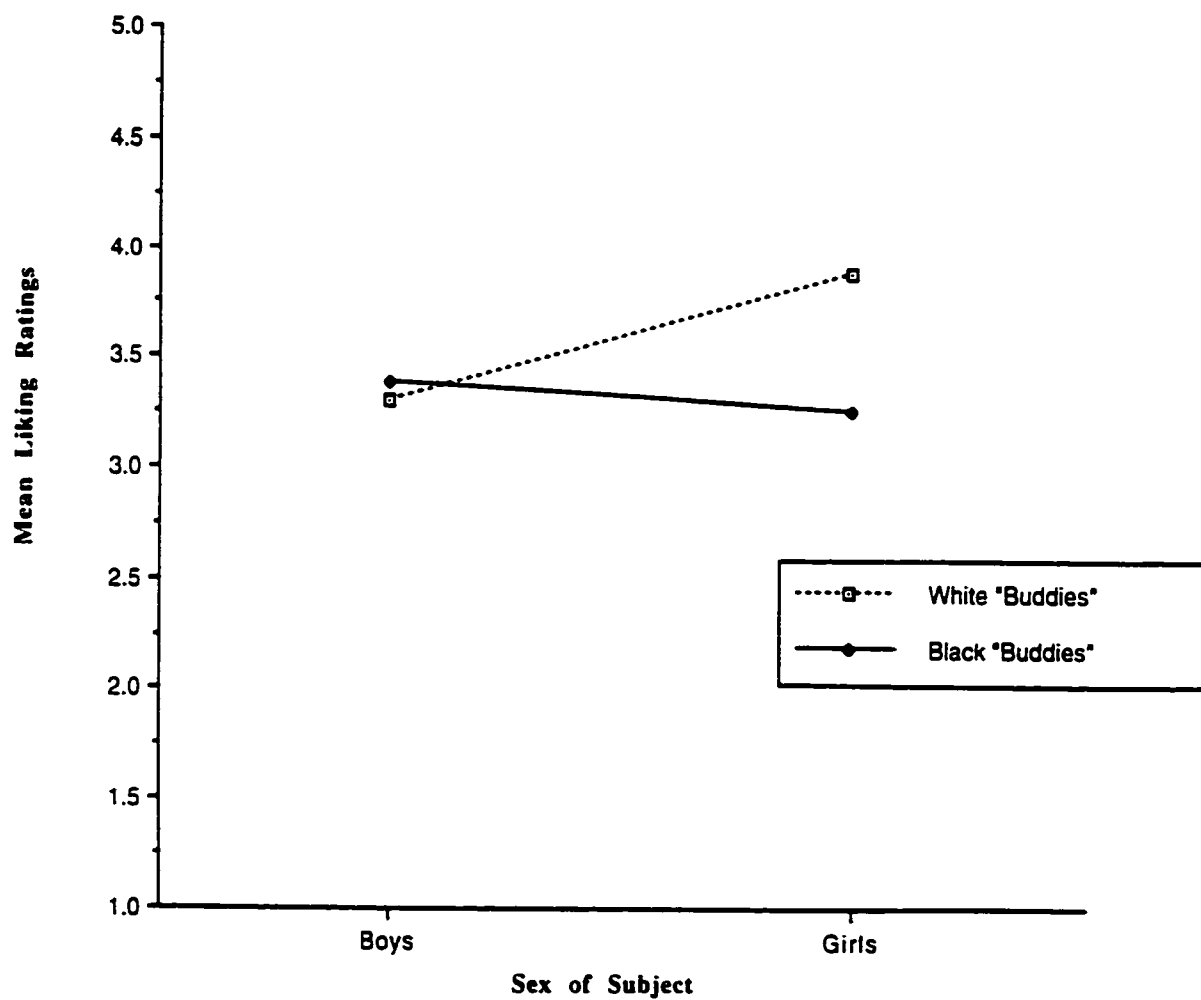
To summarize, liking for the hypothetical targets was found to vary as a function of both prejudice level and sex. Black targets were given significantly lower liking ratings by HP than by LP subjects. Girls were found to have given higher ratings to White than to Black targets, whereas, boys were found to have given higher liking ratings to Black than to White targets. On the other hand, Sex and Prejudice Level did not appear to influence the type of potential contact that the children preferred to have with Black targets. That is, regardless of prejudice level and sex, children preferred certain types of contact over others with Black hypothetical targets.

Ranking of potential "Buddies-for-the-Day" as a function of prejudice level. As may be recalled, children were asked to rank hypothetical (i.e., unknown) White and Black peers according to their preferences for having each as a potential "Buddy" for one day. It had been predicted that the LP children would place more Black targets in the top three ranks than would the HP children. The question had also been asked as to whether there would be any sex differences in the ranking choices of the children, with the prediction being that perhaps girls would place less Black Buddies in the top three ranks, than would the boys. The dependent variable in this analysis was the number of Black targets placed within the top 3 ranks. These scores were submitted to a 2 (Prejudice level: Higher, Lower) x 2 (Sex of Subject) Anova. Contrary to the hypothesis, there was no significant main effect for Prejudice Level. But, as has had been predicted, there was a significant main effect for Sex,  $F(1, 99) = 12.27, p < .001$ . An examination of the means for the boys versus the girls revealed that boys had placed a significantly greater number of Blacks in the top three ranks than the girls had ( $M_s = 1.29$  vs.  $.75$ ).

Liking of potential "Buddies" as a function of prejudice level. In addition to ranking the Black and White Buddies, children had rated these Buddies according to how much they expected to like them after meeting them. First, with regards to the relationship between liking for White and Black targets, it had been hypothesized that higher liking for

White Buddies would be related to lower liking for Black Buddies. It was found, however, that there was a significant, but positive, relationship between the two, such that children who gave high liking ratings to the White Buddies also gave higher liking ratings to Black Buddies ( $r = .31, p < .001$ ).

Second, it had been hypothesized that, on the whole, children would give higher liking ratings for White than for Black targets, but that this would be true only for Higher-Prejudice subjects, not for Lower-Prejudice ones. The question of whether there would be any sex differences in children's ratings of White vs. Black "Buddies," with the prediction being that girls would perhaps give lower liking ratings to Black Buddies than would the boys. Children's liking ratings for White and Black "Buddies" were, accordingly, submitted to a 2 (Prejudice level: Higher, Lower) x 2 (Sex of Subject) x 2 (Race of Buddy: White, Black) Anova, with Race of Buddy as the repeated factor. Results of this analysis revealed a significant main effect for Race of Buddy ( $F(1, 99) = 8.77, p < .005$ ) which was subsumed by an interaction between Sex of Subject and Race of Buddy ( $F(1, 99) = 14.01, p < .001$ ). Partly consistent with the hypotheses, children expected to like the White "Buddies" more than the Black "Buddies" ( $M_s = 3.58$  vs.  $3.31$ ), but there was no significant interaction between Prejudice Level and Race of Buddy. Follow-up of the predicted interaction between Sex and Race of Buddy revealed that boys and girls differed in their liking of White "Buddies" ( $M_s = 3.87$  for girls vs.  $3.30$  for boys), but not in their liking of Black "Buddies" ( $M_s = 3.25$  for girls vs.  $3.38$  for boys). Girls had given significantly higher mean liking ratings to the White "Buddies" than the boys had. Girls had also expected to like the White "Buddies" more than the Black "Buddies" ( $M_s = 3.87$  vs.  $3.25$ ), but boys had not ( $M_s = 3.38$  for Black and  $3.30$  for White) (see Figure 12).



**Figure 12.** Mean liking ratings of boys versus girls for Black and White potential "Buddies-for-the-day."

Liking of White vs. Non-White actual peers as a function of prejudice level.

Because two of the classrooms used in this study were composed of only White children, the subjects in these classrooms were excluded from the current analyses, leaving a total of 75 subjects for the testing of our hypotheses on this measure. A preliminary question that had been asked with regards to expressed liking for same- versus cross-race peers was the nature of the relationship between the two. Contrary to the predictions, it was found that children who had given high ratings to their same-race peers had also given high ratings to their Non-White peers ( $r = .48, p < .0001$ ).

The second question asked was whether Higher- versus Lower-Prejudice children would have differential liking for White and Non-White, same-sex peers in their classrooms. It had been hypothesized that HP subjects would give higher liking ratings to their White peers than to their Non-White peers, whereas, there would be no such distinction for Lower-Prejudice children. Since previous studies (e.g., Boulton & Smith, 1996; Hallinan & Tiexiera, 1987; Kistner et al., 1993) had found sex differences in children's liking of their peers, with girls showing more of an ingroup bias than boys, the question had been asked as to whether boys and girls would differ in their liking of same- versus cross-race peers. Children's liking scores were, therefore, submitted to a 2 (Prejudice level: Higher, Lower) x 2 (Sex of Subject) x 2 (Race of Peer: White, Non-White) Manova, with Race of Peer as the repeated factor.

Results of this analysis revealed only one significant result, a main effect for Sex of Subject,  $F(1, 71) = 3.97, p < .05$ . Overall, White girls gave significantly higher liking ratings to their peers (regardless of race) than did boys ( $M_s = 3.58$  versus 3.53). Contrary to what had been predicted, there were no significant interaction between Prejudice Level and Race of Peer, nor between Sex of Subject and Race of Peer. Since the categorization of children into Lower- and Higher-Prejudice groups in the above analysis had been based on their attitudes toward the Black group only, whereas, the "Non-White

peer” category consisted of many racial groups, another analysis was conducted, this time with the Higher- and Lower-Prejudice categories being based on children's attitudes toward at least two groups, Black and Native Indian. That is, children were categorized as Higher or Lower prejudice based on the average of their MRA W/B and W/NI Composite scores. The results of this analysis were similar to above; only a significant main effect was obtained for Sex, ( $F(1, 67) = 3.85, p < .05$ ).

#### Relationships Between Measures of Group Perception and Measures of Peer Preference

The following is a presentation of the results pertaining to the relationships between the various measures of racial attitude used in this study and the different measures of liking and preference for unknown same- vs. cross-race targets and peers (henceforth referred to as peer preference measures). Would the different racial attitude measures be similarly correlated with each of the peer preference measures? Which of the attitude measures would best predict which of the peer preference measures? Which of the indices of the MRA (that is, the Bias or the Counterbias score) would best predict each of the peer preference measures? The first question was examined through Pearson correlations between the indices of the attitude measures and the peer preference measures, whereas, the latter questions were examined through a series of multiple regression analyses.

Correlations between measures of group perception and measures of peer preference. First, in looking at the correlations between the indices of the MRA (i.e., Bias, Counterbias, and Composite scores) and preference ratings given to unknown and known, Black/Non-White and White peers, it was found that only the Bias and Composite scores had significant correlations with liking of Targets and Buddies (see Table 7). Higher MRA Bias scores were associated with lower liking ratings given to both Black and White Targets ( $r = -.23$  for Black Targets and  $r = -.20$  for White Targets,  $ps < .05$ ), and with higher liking ratings given to the White “Buddies” ( $r = .23$ ). Higher MRA Composite score, on the other hand, was related to lower liking ratings for Buddies and Targets,



regardless of race (with range of  $r$  from  $-.21$  to  $-.27$ ). Unexpectedly, MRA Counterbias was not significantly correlated with any of the liking measures. Furthermore, none of the indices of the MRA had significant correlations with the ranking of the Black “Buddies” and none with the liking of actual peers. In examining the correlations between the component scores of the MRA (i.e., the Pos-W, Pos-B, Neg-W, Neg-B scores) and the peer preference measures, only the attributions to Blacks were found to be related to the liking ratings. On the whole, greater positive attributions to Blacks were significantly related to higher liking ratings given to Targets and Buddies, regardless of race, whereas, greater negative attributions to Blacks were significantly related to lower liking ratings given to Black and White targets and to White Buddies.

Unlike the MRA, the Composite scores of the Stereotyping measure and of the Racial Expectancy Measure were not significantly related to any of the liking and ranking measures. Almost all of the component scores of the Stereotyping measure were, however, significantly related to the liking of Buddies and of actual peers. On the whole, the pattern of the significant correlations revealed that greater positive attributions to Whites and Blacks on the Stereotyping measure were related to higher liking ratings given to Buddies and to actual peers (range of  $r$  from  $.20$  to  $.32$ ), regardless of race, whereas, more negative attributions to Whites and Blacks were related to lower liking ratings given to Buddies and actual peers (range of  $r$  from  $-.19$  to  $-.32$ ), again, regardless of race. Examination of the correlations between the component scores of the Racial Expectancy Measure and the liking and ranking data revealed only two significant correlations, both with the liking of actual White peers. Children who had given higher liking ratings to their actual White peers tended to expect more positive behaviours from Whites and more negative behaviours from Blacks on the Racial Expectancy Measure ( $r = .20$ , and  $r = .22$ ,  $ps < .05$ , respectively).

Table 7

**Correlations between Measures of Group Perception and Measures of Peer Preference**

	Liking of Unknown Targets (n = 102)		Liking of Unknown Potential Buddies (n = 103)		Liking of Actual Peers		Ranking of Potential Black Buddies (n = 103)
	White	Black	White	Black	White (n = 103)	Non-White (n = 75)	
MRA Composite Score	-.23*	-.24**	-.27**	-.11	-.02	-.06	-.01
MRA Counterbias	.12	.11	.15	.16	.01	.11	-.07
MRA Bias	-.20*	-.23*	.23*	-.11	-.02	-.06	-.12
Racial Expectancy Measure	.09	-.04	-.07	-.09	.17	.02	.11
Stereotyping Measure	-.01	-.08	-.01	.05	.01	.02	.01
Trait Prevalence Measure	.01	.03	-.25**	-.19	-.03	.02	.08
Trait Variance Measure	-.16	-.19*	-.08	-.17	-.04	.06	-.11
Response-Latency Measure (Black - White)	.06	-.08	-.06	-.06	.16	.05	-.03

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$  (Two-tailed probability)

Trait Prevalence for Blacks and Whites (i.e., the Composite Trait Prevalence score) was significantly correlated only with the liking of White “Buddies” ( $r = -.25, p < .01$ ). The correlation of Composite Trait Prevalence score with the liking of Black Buddies was in the negative direction, but was only marginally significant ( $r = -.19, p = .06$ ). These correlations suggest that the more that children expected Whites and Blacks to be different from one another, across both positive and negative traits (i.e., in the direction of bias toward Blacks), the less they expected to like both White and Black “Buddies.”

Perception of trait variance within the Black group (i.e., WTVB) was only significantly related to the liking of Black Targets ( $r = -.19, p < .05$ ). Children who gave more all/none responses tended to give higher liking ratings to the Black Targets. This was consistent with the findings presented earlier that Lower-Prejudiced children had given more all/none responses and higher liking ratings to the Black Targets than had the Higher-Prejudiced children.

Examination of the relationship between the difference score for the reaction time measure (RT B-W) and the peer-preference measures revealed extremely low and nonsignificant correlations, ranging between  $r = -.007$  and  $r = .16$ . That is, the relative time taken to make evaluative decisions regarding Black versus White targets did not appear to be at all related to children’s liking and ranking of Black and White targets and peers. Examination of the correlations between response latencies to positive and negative questions about Black and White targets (i.e., instead of the overall RT B-W index) and the peer-preference measures, however, revealed significant correlations with the liking of White targets and White peers (i.e., ranging from  $r = -.21, p < .01$  to  $r = -.34, p < .001$ ). That is, children who gave higher liking ratings to the White Targets and actual White peers tended to decide more quickly about the attributes of the Targets, regardless of race and across evaluative dimensions.

Overall, then, of the measures of group perception, the Indices of the MRA had the highest number of significant correlations with the preference measures. The Stereotyping measure and the Racial Expectancy Measure, on the other hand, were not significantly related to any of the peer preference measures. None of the measures of group perception were significantly related to liking of actual peers, nor to the ranking of unknown Black “Buddies.” Of the peer-preference measures, liking for the White “Buddies” had the most number of significant correlations with the attitude measures (e.g.,  $r = -.27$  with MRA Composite score,  $r = .23$  with MRA Bias, and  $r = -.25$  with the Composite Trait Prevalence score).

Prediction of preference for unknown Black peers from measures of group perception. Next is the examination of the relative strengths of the attitude measures in predicting children’s liking and ranking of unknown Black peers only. For two reasons, liking for actual Non-White peers was not included as a dependent variable in the following analyses. First, the actual Non-White peers of children in this study represented a mixture of different ethnic/racial groups, whereas the attitude measures had used only Blacks as targets, and, second, liking for actual Non-White peers was not found to be significantly correlated with any of the attitude measures in this study.

Three separate multiple regression analyses were conducted - one for the prediction of each of the preference measures for unknown peers (i.e., Liking of Black Targets, Liking of Black Buddies, and Ranking of Black Buddies). For each of these regressions, the independent variables were the five summary index scores representing the different racial attitude measures (i.e., the MRA W/B Composite Score, the Composite Score for the Stereotyping measure, the Racial Expectancy Measure Composite Score, the Composite Trait Prevalence score for the Trait Prevalence measure, and the WTVB index for the measure of perception of within-group trait variance for the Black group. Since no specific hypotheses had been made with regards to the relationship between response latencies and

children's responses on the peer preference measures, the RT B-W index score (representing children's relative response latencies to Black versus White targets) was excluded as an independent variable in these analyses. The five summary index scores were entered in the first block of the multiple regression analyses. Because Sex of Subject had shown up as a significant factor in determining children's racial attitudes and in influencing their liking of cross-race targets, Sex was entered in the second block of the regressions. Finally, the interaction terms between the attitude measures and Sex were entered in the third block of the regressions.

The results of the analyses were somewhat unexpected in that final  $R$  (i.e., at the end of the 3rd block) was only significant for the prediction of ranking of the Black Buddies ( $R^2 = .22$ ,  $F(11, 91) = 2.30$ ,  $p < .05$ ) and was marginally significant for the prediction of Liking of the Black Targets ( $R^2 = .18$ ,  $F(11, 90) = 1.78$ ,  $p = .07$ ) (see Tables 8, 9, & 10). Final  $R$  for the prediction of Liking of the Black Buddies was not significant ( $R^2 = .13$ ,  $F(11, 91) = 1.28$ ,  $p > .05$  for the Buddies). Indeed, the combination of the attitude measures and the interaction terms with sex accounted for a surprisingly low amount of variance for the prediction of the three peer-preference indices (22% for Ranking of Black Buddies, 18% for liking of Black Targets, and 13% for the liking of Black Buddies).

Looking at each of the peer-preference measures separately, Liking of the Black Buddies was the only measure that had no significant predictors. Ranking of the Black Buddies, on the other hand, was significantly predicted by the Sex variable ( $t(91) = -3.71$ ,  $p < .001$ ,  $Beta = .37$ ), such that being male predicted the placement of a greater number of Blacks in the top three. Ranking was also significantly predicted by an interaction between Sex and WTVB, the index for the perception of within-group trait variance for the Black group ( $t(91) = 2.29$ ,  $p < .05$ ,  $Beta = .23$ ). An examination of this interaction revealed that the correlation between WTVB and Ranking was significant for boys ( $r = -.30$ ,  $p < .05$ ),

Prediction of the Number of Unknown Black Peers Ranked in the Top 3 Choices (as Potential "Buddies-for-the-Day") by Various Measures of Group Perception

N = 103			
	Beta	t Ratio	p value
<b>Step1:</b> <u>Rsquare</u> = .04 F = .70, p > .05			
MRA	-.13	-1.14	.25
Racial Expectancy Measure (REM)	.08	.80	.43
Stereotyping Measure Trait Prevalence Measure (TP)	.08	.74	.46
Trait Variance Measure (TV) (Within Black Group)	-.12	-1.15	.25
<b>Step 2:</b> <u>Rsquare</u> = .15 F = 2.78, p < .05			
Sex of Subject	-.37	-3.71	.0004
<b>Step 3:</b> <u>Rsquare</u> = .22 F (11, 91) = 2.30, p < .05 <u>Fchange</u> = 1.61, signif. <u>Fchange</u> = .16			
Sex x MRA	-.003	-.02	.98
Sex x REM Measure	-.10	-.97	.34
Sex x Stereotyping Measure	-.03	-.27	.78
Sex x TP Measure	-.17	-1.46	.15
Sex x TV Measure	.23	2.29	.02

Note. All p values reflect two-tailed tests of probability.

**Prediction of Liking for Potential Black "Buddies-for-the-Day" by Various Measures of Group Perception**

N = 103			
	Beta	t Ratio	p value
<b>Step 1: <math>R^2 = .08</math> <math>F = 1.6, p &gt; .05</math></b>			
MRA	-.19	-1.52	.13
Racial Expectancy Measure (REM)	-.05	-.48	.64
Stereotyping Measure	.14	1.25	.22
Trait Prevalence Measure (TP)	-.10	-.83	.41
Trait Variance Measure (TV) (Within Black Group)	-.15	-1.38	.17
<b>Step 2: <math>R^2 = .10</math> <math>F = 1.73, p &gt; .05</math></b>			
Sex of Subject	-.16	-1.52	.13
<b>Step 3: <math>R^2 = .13</math> <math>F(11, 91) = 1.28, p &gt; .05</math> <math>F_{change} = .76, \text{signif. } F_{change} = .58</math></b>			
Sex x MRA	-.07	-.59	.56
Sex x REM Measure	-.15	-1.33	.19
Sex x Stereotyping Measure	-.03	-.23	.82
Sex x TP Measure	.07	.55	.58
Sex x TV Measure	.10	.93	.56

**Note.** All p values reflect two-tailed tests of probability.

Prediction of Liking of Individual Black Targets by Various Measures of Group Perception

N = 103			
	Beta	t Ratio	p value
<b>Step 1:</b> <u>Rsquare</u> = .12 E = 2.66, p < .05			
MRA	-.35	-2.85	.005
Racial Expectancy Measure (REM)	.05	.45	.65
Stereotyping Measure	-.04	-.41	.69
Trait Prevalence Measure (TP)	.16	1.31	.19
Trait Variance Measure (TV) (Within Black Group)	-1.8	1.16	.08
<b>Step 2:</b> <u>Rsquare</u> = .13 E = 2.41, p < .05			
Sex of Subject	-.12	-1.13	.26
<b>Step 3:</b> <u>Rsquare</u> = .18 E (11, 91) = 1.78, p = .07 <u>Fchange</u> = 1.01, signif. <u>Fchange</u> = .41			
Sex x MRA	-.12	-1.04	.30
Sex x REM Measure	-.02	-.18	.86
Sex x Stereotyping Measure	-.18	1.20	.09
Sex x TP Measure	.02	.13	.90
Sex x TV Measure	.07	.68	.50

Note. All p values reflect two-tailed tests of probability.



but not for girls ( $r = .09$ ,  $p = ns$ ). That is, for boys, a greater number of “all/none” responses with regards to the Black targets was related to the placement of a greater number of Black Buddies in the top three ranks, whereas, the responses of girls were not related to their ranking choices. These findings were consistent with the results presented above showing that (a) those children who had given more all/none responses for Blacks also tended to have lower levels of prejudice on the MRA, and that (b) boys had placed a greater number of Black Buddies in the top three ranks than girls had. Looking at the significance levels for each of the blocks in the regression, only blocks 2 and 3 were found to be significant ( $R^2 = .15$ ,  $p < .05$  and  $R^2 = .22$ ,  $p < .05$ , respectively). That is, the attitude measures together had not significantly contributed to the prediction of Ranking ( $R^2 = .04$ ), but the addition of Sex had added significantly to the prediction. Also, although the addition of the interaction terms had not added significantly to the prediction ( $F_{change} = 1.61$ ,  $p > .05$ ), the three blocks together had accounted for a significant amount of variance in the prediction of Ranking ( $R^2 = .22$ ,  $F(11, 91) = 2.30$ ,  $p < .05$ ).

For Liking of the Black Targets, both Blocks 1 and 2 were found to have added significantly to the prediction ( $R^2 = .12$ ,  $p < .05$  and  $R^2 = .13$ ,  $p < .05$ , respectively). That is, the attitude measures in combination had significantly contributed to the prediction of Liking of the Black Targets, and so had the addition of Sex. The equation for the third block was only marginally significant ( $R^2 = .18$ ,  $F(11, 90) = 1.78$ ,  $p = .07$ ). The interactions had not added significantly to the prediction ( $F_{change} = 1.01$ ,  $p > .05$ ). Of the independent variables, the Composite score of the MRA was the only significant predictor of Liking of the Black Target ( $t(90) = -2.85$ ,  $p < .005$ ,  $Beta = -.35$ ). That is, those with higher Composite scores had given lower liking ratings to the Black Targets. Two other variables also predicted Liking of the Black targets, but only when a one-tailed criteria of significance was used. One was the WTVB score, the index for the perception of within-group variance for the Black group ( $t(90) = -1.77$ ,  $p = .04$ ),  $Beta = -$

.18), whereby, more all/none responses with regards to Blacks predicted greater liking for the Black Targets. The other was an interaction between Sex and the Composite score for the Stereotyping measure ( $t(90) = -1.71$ ,  $p = .04$ , Beta = -.18). An examination of this interaction revealed that, for girls, higher Composite scores on the Stereotyping measure were related to lower liking ratings give to Black Targets ( $r = -.30$ ,  $p < .05$ ), but this relationship was not significant for boys ( $r = .15$ ,  $p = ns$ ).

To summarize, liking for unknown Black Buddies was the only peer preference measure that did not have any significant predictors. Ranking of the Black “Buddies”, on the other hand, had the highest amount of variance accounted for by the predictors. Sex was a predictor for both ranking of the “Buddies” and liking of the Targets. Of the two peer preference measures that had significant predictors, the Composite score of the MRA only predicted liking for the Black Targets, but not ranking of the Black Buddies. Liking for the Black Targets was also the only peer preference measure that was significantly predicted by a combination of the group perception measures.

#### Prediction of peer preference from the Component scores vs. Indices of the MRA.

The questions asked in following section were (a) whether the Indices (i.e., Bias and Counterbias scores) or the Component scores (i.e., positive-W, positive-B, negative-W, negative-B scores) of the MRA would account for more of the variance in the prediction of the various peer preference measures, and (b) which of the Indices and which of the Component scores of the MRA would best predict each of the peer preference measures. To answer these questions, two regression analyses were conducted for each of the dependent variables (i.e., two for Liking of Black Buddies, two for Ranking of Black Buddies, and two for Liking of Black Targets). The independent variables (IV's) in the first regression analyses were the component scores of the MRA, whereas, the IV's in the second regression analyses were the Bias and Counterbias Indices of the MRA. As with the analyses above, the Component scores (or Indices) were entered in the first block, Sex

was entered in the second block, and the interactions between the Component scores (or Indices) and Sex were entered in the third block of the regression analyses.

A comparison of the results for the prediction of the liking and ranking outcomes revealed that Rsquare's were consistently higher when the Component scores of the MRA were entered as the IV's, than when the Bias and Counterbias Indices of the MRA were entered as the IV's (Rsquares for the Component scores vs. Indices = .10 vs. .06 for the Liking of Black Buddies, .18 vs. .15 for the Ranking of Black Buddies, and .20 vs. .12 for the Liking of Black Targets). That is, the Component scores of the MRA, when considered together and in their interactions with Sex, accounted for more of the variability in the peer preference measures than did the Indices of the MRA.

Looking at the prediction of Liking of the Black Buddies, final R's for neither the Component scores nor for the Bias and Counterbias Indices were found to be significant (Rsquare = .10, F (9, 93) = 1.11,  $p > .05$  and Rsquare = .06, F (5, 97) = 1.22,  $p = ns$ , respectively). When the Component scores of the MRA were entered as the IV's, none of the blocks were significant in predicting liking (Rsquare = .07, .09, and .10 for blocks 1, 2, and 3, respectively) (see Table 11). Of the Component scores of the MRA, the Positive-Black score was the only predictor of Liking of the Buddies, but only when a one-tailed test of significance was used (t (93) = 1.65,  $p = .05$ , Beta = .26). More positive attributions to Blacks were associated with higher liking of Black Buddies. When the Bias and Counterbias Indices of the MRA were used as the IV's in the prediction of liking of Black Buddies, again, none of the blocks were significant in predicting liking (Rsquare = .04, .06, and .10 for blocks 1, 2, and 3, respectively) (see Table 12). Of the individual Indices, both Counterbias and Bias were significant predictors, but only when using a one-tailed test of significance (t (97) = 1.84,  $p = .04$ , Beta = .21 for CB and (t (97) = -1.62,  $p = .05$ , Beta = -.18). High CB and Low Bias scores predicted higher liking ratings given to Black Buddies.

Prediction of Liking for Potential Black "Buddies-for-the-Day" by the Component Scores of the Multiple-Response Racial Attitude Measure (MRA)

N = 103			
	Beta	t Ratio	p value
<b>Step1:</b> <u>Rsquare</u> = .07 F = 1.76, p > .05			
Positive-White	.03	.25	.80
Positive-Black	.26	1.65	.10
Negative-White	.003	.02	.10
Negative-Black	-.09	-.52	.61
<b>Step 2:</b> <u>Rsquare</u> = .09 F = 1.86, p > .05			
Sex of Subject	-.15	-1.46	.15
<b>Step 3:</b> <u>Rsquare</u> = .10 F (9, 93) = 1.11, p > .05 <u>Fchange</u> = .26, signif. <u>Fchange</u> = .91			
Sex x Positive-White	-.0008	-.006	.10
Sex x Positive-Black	-.10	-.64	.52
Sex x Negative-White	.15	.88	.38
Sex x Negative-Black	-.10	-.58	.56

Note. All p values reflect two-tailed tests of probability.

Prediction of Liking for Potential Black "Buddies-for-the-Day" by the Bias and Counterbias  
Indices of the Multiple-Response Racial Attitude Measure (MRA)

N = 103			
	Beta	t Ratio	p value
<b>Step 1:</b> <u>Rsquare</u> = .04 <u>F</u> = 2.29, <u>p</u> > .05			
Counterbias	.21	1.84	.07
Bias	-.18	-1.62	.11
<b>Step 2:</b> <u>Rsquare</u> = .06 <u>F</u> = 2.04, <u>p</u> > .05			
Sex of Subject	-.13	-1.25	.22
<b>Step 3:</b> <u>Rsquare</u> = .06 <u>F</u> (5, 97) = 1.22, <u>p</u> > .05 <u>Fchange</u> = .07, signif. <u>Fchange</u> = .94			
Sex x Counterbias	.02	.16	.87
Sex x Bias	-.04	-.35	.72

Note. All p values reflect two-tailed tests of probability.

For the prediction of Ranking of the Black Buddies, the final  $R^2$ 's for both the Component scores and the Bias and Counterbias Indices were significant ( $R^2_{\text{square}} = .18$ ,  $F(9, 93) = 2.19$ ,  $p < .05$  and  $R^2_{\text{square}} = .18$ ,  $F(9, 97) = 3.37$ ,  $p < .01$ , respectively). When the Component scores were entered as the IV's, only blocks 2 and 3 were significant (see Table 13). That is, the Component scores, together, did not contribute significantly to the prediction of Ranking ( $R^2_{\text{square}} = .03$ ,  $p > .05$ ), but the addition of Sex did ( $R^2_{\text{square}} = .15$ ,  $p < .01$ ). The addition of the interaction terms also did not add significantly to the prediction ( $F_{\text{change}} = .70$ ,  $p > .05$ ), but the three blocks, when considered together, did significantly predict Ranking ( $R^2_{\text{square}} = .18$ ,  $F(9, 93) = 2.19$ ,  $p < .05$ ). Of the individual independent variables, only Sex was a significant predictor of Ranking ( $t(93) = 3.71$ ,  $p < .001$ ,  $\text{Beta} = -.37$ ). That is, being a girl was associated with the placement of a fewer number of Blacks in the top three ranks. None of the Positive and Negative Component scores of the MRA made a significant contribution to the prediction of Ranking. When the indices of the MRA were used as the IV's in the prediction of Ranking, again, only block 2 and 3 were significant (see Table 14). That is, as with the Component scores, the Indices together did not contribute significantly to the prediction of Ranking ( $R^2_{\text{square}} = .02$ ,  $p = \text{ns}$ ), but the addition of Sex did ( $R^2_{\text{square}} = .15$ ,  $p < .001$ ). The addition of the interaction terms did not add significantly to the prediction ( $F_{\text{change}} = .10$ ,  $p > .05$ ), but the three blocks, when considered together, did significantly predict Ranking ( $R^2_{\text{square}} = .15$ ,  $F(9, 97) = 3.37$ ,  $p < .01$ ). Of the individual independent variables, Ranking was significantly predicted by Bias and Sex ( $t(97) = -1.97$ ,  $p < .05$ ,  $\text{Beta} = -.20$  for Bias and  $t(97) = -3.8$ ,  $p < .0005$ ,  $\text{Beta} = -.37$ ). That is, higher MRA Bias scores and being female were associated with the placement of a fewer number of Black Buddies in the top three ranks.

Looking at the results for the prediction of liking of Black Targets, the final regression equations for both the Component scores and the Indices of the MRA were

Prediction of the Number of Unknown Black Peers Ranked in the Top 3 Choices (as Potential "Buddies-for-the-Day") by the Component Scores of the Multiple-Response Racial Attitude Measure (MRA)

N = 103			
	Beta	t Ratio	p value
<b>Step 1:</b> <u>Rsquare</u> = .03 F = .67, p > .05			
Positive-White	-.14	-1.09	.28
Positive-Black	.12	.81	.42
Negative-White	.15	-.89	.37
Negative-Black	-.09	-.54	.59
<b>Step 2:</b> <u>Rsquare</u> = .15 F = 3.43, p < .01			
Sex of Subject	-.37	-3.70	.0004
<b>Step 3:</b> <u>Rsquare</u> = .18 F (9, 93) = 2.19, p < .05 <u>Fchange</u> = .70, signif. <u>Fchange</u> = .79			
Sex x Positive-White	-.12	-.95	.34
Sex x Positive-Black	-.06	-.40	.69
Sex x Negative-White	.11	.65	.52
Sex x Negative-Black	-.02	-.09	.93

Note. All p values reflect two-tailed tests of probability.

Prediction of the Number of Unknown Black Peers Ranked in the Top 3 Choices (as Potential "Buddies-for-the-Day") by the Bias and Counterbias Indices of the Multiple-Response Racial Attitude Measure (MRA)

N = 103			
	Beta	t Ratio	p value
<b>Step1:</b> <u>Rsquare</u> = .02 F = .91, p > .05			
Counterbias	.002	.02	.98
Bias	-.20	-1.97	.05
<b>Step 2:</b> <u>Rsquare</u> = .15 F = 5.64, p < .001			
Sex of Subject	-.37	-3.82	.0002
<b>Step 3:</b> <u>Rsquare</u> = .15 F (5, 97) = 3.37, p < .01 <u>Fchange</u> = .10, signif. <u>Fchange</u> = .90			
Sex x Counterbias	.04	.41	.69
Sex x Bias	.01	.08	.93

Note. All p values reflect two-tailed tests of probability.



significant ( $R^2 = .20$ ,  $F(9, 92) = 2.55$ ,  $p < .01$  and  $R^2 = .12$ ,  $F(5, 96) = 2.51$ ,  $p < .05$ , respectively). When the Component scores were entered as the IV's, all three blocks entered in the regression were significant (see Table 15). More specifically, the Component scores together accounted for 12% of the variance in the prediction of liking for the Black Targets, with the addition of Sex contributing significantly to this prediction, raising  $R^2$  to .15 (i.e., 15% of the variance). The addition of the interaction terms did not add significantly to the prediction ( $F_{change} = 1.34$ ,  $p > .05$ ), but the three blocks, when considered together, did account for a significant amount of variance in the prediction of liking for Black Targets ( $R^2 = .20$ ,  $F(9, 92) = 2.55$ ,  $p < .01$ ). Of the individual independent variables, Positive-Black was the only significant predictor of liking for the Black Targets ( $t(92) = 2.63$ ,  $p < .01$ ,  $Beta = .39$ ). Positive attributions to Blacks on the MRA were associated with higher liking ratings given to Black Targets. Sex was marginally significant as a predictor ( $t(92) = -1.91$ ,  $p = .06$ ,  $Beta = -.19$ ). As with the above results, being a female was associated with lower liking ratings given to the Black Targets. When the Bias and Counterbias Indices were entered as the IV's in the prediction of liking for the Black Targets, again, all three blocks entered in the regression were significant (see Table 16). The two Indices together accounted for 7% of the variance in the prediction of liking for the Black Targets, and the addition of Sex contributed significantly to this prediction, raising  $R^2$  to .09. The addition of the interaction terms did not add significantly to the prediction ( $F_{change} = 1.24$ ,  $p > .05$ ), but the three blocks, when considered together, did account for a significant amount of variance in the prediction of liking for the Black Targets ( $R^2 = .12$ ,  $F(5, 96) = 2.51$ ,  $p < .05$ ). Of the individual independent variables, both Bias and Counterbias were significant predictors ( $t(96) = -3.18$ ,  $p < .005$ ,  $Beta = -.34$  for Bias and  $t(96) = 2.16$ ,  $p < .05$ ,  $Beta = .24$ ). Bias, however, was the stronger predictor.

Prediction of Liking of Unknown Black Targets by the Component Scores of the Multiple-Response Racial Attitude Measure (MRA)

N = 103			
	Beta	t Ratio	p value
<b>Step1:</b> <u>Rsquare</u> = .12 F = 3.43, p < .01			
Positive-White	-.08	-.59	.56
Positive-Black	.39	2.63	.01
Negative-White	-.09	-.56	.58
Negative-Black	-.17	-.99	.32
<b>Step 2:</b> <u>Rsquare</u> = .15 F = 3.47, p < .01			
Sex of Subject	-.19	-1.92	.06
<b>Step 3:</b> <u>Rsquare</u> = .20 F (9, 93) = 2.55, p < .01 <u>Fchange</u> = 1.34, signif. <u>Fchange</u> = .26			
Sex x Positive-White	-.18	-1.38	.17
Sex x Positive-Black	.01	.09	.93
Sex x Negative-White	.17	1.04	.30
Sex x Negative-Black	-.09	-.58	.56

Note. All p values reflect two-tailed tests of probability.

Prediction of Liking of Unknown Black Targets by the Bias and Counterbias Indices of the  
Multiple-Response Racial Attitude Measure (MRA)

N = 103			
	Beta	t Ratio	p value
<b>Step 1:</b> <u>Rsquare</u> = .07 F = 3.95, p < .05			
Counterbias	.24	2.16	.03
Bias	-.34	-3.18	.002
<b>Step 2:</b> <u>Rsquare</u> = .09 F = 3.30, p < .05			
Sex of Subject	-.16	-1.61	.11
<b>Step 3:</b> <u>Rsquare</u> = .12 F (5, 96) = 2.51, p < .05 <u>Fchange</u> = 1.24, signif. <u>Fchange</u> = .30			
Sex x Counterbias	.13	1.19	.23
Sex x Bias	-.14	-1.32	.19

Note. All p values reflect two-tailed tests of probability.

To summarize, the Component scores, rather than the Indices of the MRA, seemed to account for a greater amount of variance in the prediction of the various liking and ranking measures for the hypothetical Black peers. Of the Component scores of the MRA, Positive-Black was the only significant predictor of the peer preference indices. Of the Indices of the MRA, Bias appeared to be a stronger predictor for some measures than the Counterbias, but not for all. Liking for the Black Buddies had the least amount of significant predictors. Overall, Sex of subject, whether on its own, or in an interaction with a Component or an Index of the MRA, appeared to have the most number of associations with the peer preference indices.

### Discussion

This study examined the influence of racial prejudice on White children's perceptions and evaluations of others belonging to the same and other racial groups. It further examined interrelationships between different measures of group perception, as well as between various measures of peer preference. The relative strengths of measures of group perception in predicting children's preferences for same versus cross-race peers were also examined.

A number of specific questions were asked with regards to relationships between prejudice level and children's (a) judgments of individual, hypothetical, same- and cross-race, peers (via a stereotyping measure) (b) expectations of trait prevalence and perceptions of trait variance for the ingroup versus the outgroup, (c) readiness to make evaluative judgments about individual, same- versus cross-race peers with whom they were not familiar (measured via a response-latency paradigm), and (d) behavioural intentions toward and expressed preferences for unknown and known peers of different racial groups.

The following section is a discussion of the results related to each question.

#### Relationship Between Attitudes toward the Ingroup and Outgroup

Results from the intercorrelations between the component scores of the MRA

revealed that children's positivity and negativity toward the Black and Native Indian groups were significantly related to the negative attributions that they made to their own (White) group, but not related to the positive attributions that they made to their own group. More specifically, children who attributed more negative qualities to their own group also tended to attribute more negative and positive qualities to the outgroups, whereas children's positive attributions to their own group were not related to their perceptions of the outgroup. These findings are largely consistent with the findings of a previous study by Black-Gutman & Hickson (1996). These researchers found that although Positive-White attributions were significantly and positively related to Negative attributions to Asians ( $r=.52$ ), they were not related to Negative attributions to Aborigines, whereas, Negative-White attributions were significantly and positively related to positive attributions to both Asians ( $r=.49$ ) and Aborigines ( $r=.55$ ).

As alluded to by Black-Gutman & Hickson (1996), such results suggest that the ability of children to see negative qualities in their own group may be related to their ability to see both positive and negative qualities in other groups. The ability of children to see positive qualities in their own group may not, on the other hand, be related to their evaluations of the outgroups. It might be argued, then, that the ability of children to see negative qualities in their own group may enable them to have more realistic perceptions of both their own and other groups. Unlike Doyle & Aboud's (1995) original study on the MRA, however, the current study did not find a significant and positive correlation between Positive-White and Negative-Black attributions, so that the current results may need to be replicated.

Another difference in the correlations obtained in this study versus Doyle and Aboud's (1995) study is that the current study did not find a significant relationship between the Bias and Counterbias Indices of the MRA. Based on the current finding, one may argue that these indices may be tapping different phenomena. Both the Bias and

Counterbias Indices were, on the other hand, found to be significantly related to the MRA Composite score.

Children's Racial Attitudes Toward Blacks versus Native Indians as a Function of School and Sex

Two preliminary questions that had been asked with regard to children's attitudes, as measured by the MRA, were (a) whether their attitudes toward Black and Native Indian groups varied as a function of their school (i.e., relative presence of these minority groups within the third grade) and/or the sex of the children, and (b) whether children, in general, had more positive attitudes toward Native Indians than toward Blacks as had been found in previous studies. Preliminary analyses revealed that children's attitudes toward these two groups did not vary according to the specific racial composition of the classrooms within the third grade. Examination of children's responses revealed, that, although their attitudes toward Blacks and Native Indians were significantly and positively related to one another, children had higher prejudice toward Blacks than toward Native Indians. This latter finding is consistent with the results of Doyle and Aboud's (1995) study. As some researchers have previously argued (e.g., Black-Gutman & Hickson, 1996; Singh et al., 1998), findings of differences in children's attitudes toward various outgroups provide support for the view that prejudice may be influenced by cultural or learning factors, and not solely or purely determined by universal cognitive factors.

Singh and his colleagues (1998) have recently offered an alternative explanation for differences in attitudes toward different minority groups. These researchers have argued that when individuals are asked to judge multiple groups, as opposed to just one outgroup, their derogation of one, but not the other outgroup(s), may be related to their need to reconcile two conflicting motives: their need to be fairminded versus their need for maintaining a positive social identity. In their own words, "In judging several groups along the very same measures, the need to preserve social identity can lead to contrast

between the ingroup and at least one outgroup, or no intergroup discrimination, versus the need for fairmindedness leads to assimilation of one of the out-groups with the ingroup (Singh et al., 1998, p. 150). According to this view, the children in this study may have tried to meet their need for maintaining a positive social identity through the derogation of the Black group, while at the same time tried to fulfil their need to be fairminded by being more positive toward the Native Indian group.

The finding that boys had higher overall prejudice scores toward outgroups on the MRA than girls had not been predicted, nor found in previous studies (but see Fishbein's evolutionary theory for possible gender differences in prejudice). Moreover, this finding appears to be inconsistent with almost all of the other sex differences found in this study, which showed girls to have more of an ingroup bias than boys, particularly with regard to their expressed preferences for White versus Black peers. The only other result in this study which was remotely in the direction of higher prejudice in boys was on the measure of Expectation of Trait Prevalence. On this measure, Higher-Prejudice boys seemed to have a rather pessimistic expectation of others, regardless of race. But again, such expectations were of others in general, rather than of outgroups only. It, therefore, remains to be seen whether these results will be replicated.

#### Impact of Prejudice on Children's Stereotyping

The close-to-zero correlations obtained between the MRA and the Stereotyping measure, despite their overlapping item content, strongly suggests that the two measures may have called upon the formation of different impressions of the outgroups. It is possible, for example, that the stereotyping measure had succeeded in drawing children's attention away from race or group membership as a salient basis for evaluation and more toward the individual characteristics of the targets, and that this may have led to a different basis for the making of evaluative judgments (cf. Fiske & Neuberg, 1990).

Contrary to the hypotheses, however, the correlations between the two measures were not significantly different for Higher- versus Lower-Prejudice children. It seems, therefore, that the Higher-Prejudice children were possibly not more drawn than the Lower-Prejudice children to the category-based information that was present in both measures, and that all children, regardless of their prejudice level, seem to have been affected by the differences between the two measures.

There was, nevertheless, evidence for more bias against Blacks than Whites on both the MRA and the Stereotyping measure. Unlike the higher overall prejudice of boys toward the outgroups on the MRA, however, it was the Higher-Prejudice girls that endorsed significantly more positive items for White than for Black Targets, and significantly more negative items for Black than for White Targets on the Stereotyping measure.

#### Impact of Prejudice on Children's Behavioural Expectations from Cross-Race Peers

Unlike the Stereotyping measure, children's behavioural expectations from unknown cross-race peers, as measured by the Racial Expectancy Measure, were significantly correlated with the MRA. Children's expectations from Black targets were influenced by prejudice level in such a way that only Higher-Prejudice children had significantly more positive expectations from White than from Black targets and had significantly more negative expectations from Black than from White targets. As with the Higher-Prejudice girls on the Stereotyping measure, however, these Higher-Prejudice children did not expect the Black targets to have significantly more negative than positive qualities, even though they expected Whites to have more positive than negative qualities.

These results are consistent with previous studies on children's racial stereotyping (e.g., Bigler & Liben, 1993; Lawrence, 1991; Sagar & Schofield, 1980), and suggest, in addition, that White children's attitudes on the MRA may be related to their expectations from cross-race peers in situations which require contact between the two.



A number of deleterious outcomes could result from such expectations. If, for example, Higher-Prejudice children expect more negative behaviours from cross-race peers than from same-race peers, they may avoid contact with cross-race peers or act in ways that are congruent with such expectations. Both strategies would likely result in the maintenance, and possible strengthening, of the negative attitudes of Higher-Prejudice children, either by depriving them of the opportunity to form more realistic and possibly positive views of cross-race peers, or by eliciting negative behaviours from cross-race peers via the creation of self-fulfilling prophecies (cf., e.g., Darley & Fazio, 1980; Snyder, Tanke & Berscheid, 1977; Taylor & Crocker, 1981). Negative expectations from cross-race peers may also have indirect implications for the emotional and social adjustment of those peers, via peer rejection and/or negative peer interactions (cf. Bagwell, Newcomb, & Bukowski, 1998; Cicchetti, & Bukowski, 1995; Hoza, Molina, Bukowski, & Sippola, 1995; Parker & Asher, 1987; Parker & Gottman, 1989).

#### Impact of Prejudice on Children's Expectations of Trait Prevalence

Largely consistent with the hypotheses, children's expectations of the prevalence of positive and negative traits for Whites and Blacks, as measured by the Trait Prevalence measure, varied as a function of their prejudice scores on the MRA. Higher-Prejudice children expected positive qualities to be more prevalent in Whites than in Blacks, but did not expect a difference in the prevalence of negative qualities. Indeed, examination of the Standard Deviations revealed that Higher-Prejudice children perceived the White group to vary much less with regard to positive qualities, than with regard to negative qualities, and to vary much less than both positive and negative qualities for Blacks.

The finding that Higher-Prejudice boys expected positive traits to be less prevalent, and negative traits to be more prevalent, in others, regardless of race, than did the Lower-Prejudice boys had not been predicted. As suggested earlier, this indicates that Higher-prejudice boys may have a more pessimistic outlook of people in general, independently of race.

On the whole, the results obtained from this measure indicate that children in this age group are not only capable of judging similarities between members of racial groups on the basis of visual cues, as had been found in previous studies (e.g. Doyle & Aboud, 1995; Katz et al., 1975), but are able to do so on the basis of trait dimensions. The results also suggest that children can evaluate the prevalence of traits for groups that are racially based, rather than only for those that are formed artificially (cf., Bigler et al., 1997) or those which are based on gender (cf. Bigler, 1995).

#### Impact of Prejudice on Children's Perceptions of Trait Variance

Contrary to the hypotheses, children did not perceive more trait variance for their own (i.e., White) group than for the Black group (i.e., they did not give more all/none responses for the Black group than for the White group). Their perceptions did vary, however, as a function of both the race of the targets and their prejudice level, but in a direction that was contrary to that which had been predicted. According to the results, it was the Lower-Prejudiced, but not the Higher-Prejudiced, children who gave significantly more all/none responses for the Black group than for the White group. In so doing, these Lower-Prejudice children appeared to be saying that "all" Blacks were "good" and that "none" were "bad," but that Whites could be more diverse.

At first glance, these findings appear to contradict previous findings of greater "flexibility" (cf. Doyle et al., 1988) or "complexity" (cf. Linville, 1982) of Lower-Prejudice children in their thinking about members of racial groups, that is, their greater ability to perceive both ingroups and outgroups as having favourable and unfavourable qualities at the same time. They also appear to contradict findings in the adult literature which have shown lower perceptions of variability for outgroups to be related to more negative evaluations toward them (see Hilton & von Hippel, 1996).

On the other hand, the current findings appear to be somewhat consistent with theories aimed at explaining Lower-Prejudiced responses in adults. One such theory claims

that when faced with a threat to their Lower-Prejudiced identities, such individuals may try to hold on rather tightly to their non-prejudiced beliefs, and in so doing, avoid feelings of compunction (Devine et al., 1991; Monteith, 1993). Another theory proposes that the fear of being perceived as prejudiced, or of perceiving oneself as prejudiced, might lead some individuals to engage in reverse discrimination, that is, to behave more favourably toward members of minority groups than toward members of the ingroup (Dutton, 1971; Dutton & Lake, 1973; also see Bodenhausen, Macrae & Garst, 1988).

Based on these theories, one could argue that perhaps the Lower-Prejudiced children in this study were strongly motivated to hold on firmly to their non-prejudiced beliefs or identities, or to portray themselves to others as non-prejudiced, and that this could have led them to the making of such “all” or “none” responses for the Black group (e.g., “all” Black children are “play fair” and “none” are “mean”), but not for their own group. One could, therefore, argue that the more restricted response pattern of the Lower-Prejudiced children may be more reflective of their motivations or concerns than of their “true” perceptions of variability. This speculation is partly supported by the above-mentioned finding that when the Standard Deviations of children’s responses to the Expectation of Trait Prevalence measure were examined, it was the Higher-Prejudice children who perceived the White group to vary much less with regard to positive qualities, than with regard to negative qualities, and to vary much less than both positive and negative qualities for Blacks. Since no measure of motivation was used in the current study, however, such conjectures remain to be tested.

On the other hand, the response pattern of the Lower-Prejudice children could have been a joint outcome of their having learned in the past that they should not think of others as being “bad” on the basis of race, and, at the same time, having learned (via e.g., parents and teachers) to see both good and bad qualities in themselves.

### Impact of Prejudice on Children's Readiness to Make Evaluative Decisions

This study had also asked whether children differed in the readiness with which they made evaluative decisions about White and Black Targets. Based on the results, there may be an association between prejudice level and the readiness with which children process information about race, as well as about evaluative trait dimensions. The Higher-Prejudice White children in this study tended to make decisions more quickly about White Targets than about Black ones, and also tended to make quicker decisions about negative qualities than about positive ones. Lower-Prejudice children, on the other hand, tended to make quicker decisions about Black Targets, than about White ones, and also tended to make quicker decisions about positive traits, than about negative ones. Unlike previous findings in the adult literature, however, there was no three-way interaction between prejudice level, evaluative dimension and race of target, that is, the readiness with which Higher- and Lower-Prejudice children made decisions about positive and negative traits belonging to Targets did not vary as a function of the race of those Targets.

Unexpectedly, boys and girls also differed in the readiness with which they made decisions about White versus Black targets, with boys tending to respond more quickly to questions about Blacks than about Whites, and girls tending to respond more quickly to questions about Whites than about Blacks. Looking at the overall pattern of the response-latency results, it is interesting that the responses of boys resembled those of Lower-Prejudice children, in that they both made decisions more quickly about Black targets than about White ones, whereas, the responses of girls were more similar to those of Higher-Prejudice subjects, in that they both made decisions more quickly about White targets than about Black ones. It is also interesting to note that children who responded more quickly to questions about Whites than about Blacks had significantly higher overall prejudice scores toward Blacks on the MRA (i.e., Pearson correlations between RTB-W score and MRA

W/B Composite score was .22,  $p < .05$ ). The MRA was the only measure that was significantly correlated with the RTB-W score.

At first glance, these findings seem to be at odds with the result that the boys in this study had higher overall prejudice scores on the MRA than did the girls. On the other hand, as may be recalled, it was the girls that appeared to have more of a preference for White than for Black unknown peers in this study. It was also the Higher-Prejudice girls, but not the boys, who showed relatively more bias toward Black than toward White Targets on the Stereotyping measure.

Assuming that the current results reflect true processing differences between Higher- versus Lower-Prejudice children, and between boys versus girls, one may ask whether response-latency paradigms such as the one used in this study, may measure a different, perhaps more subtle, aspect of racial attitudes in children (see discussions of implicit vs. explicit measures of racial prejudice in the adult literature: e.g., Bassili, 1996; Dovidio & Gaertner, 1991; Dovidio et al., 1997; Fazio et al., 1995; Greenwald & Banaji, 1995; von Hippel et al., 1997; Wittenbrink et al., 1997). Girls and boys may differ, for example, in the ways in which they express their prejudice, with girls being perhaps less willing than boys to express negative attitudes toward those belonging to other racial groups on more explicit measures, such as on the MRA, but more likely to do so in the context of peer relations (cf. e.g., Boulton & Smith, 1996; Hallinan & Tiexiera, 1987; Kistner et al., 1993), and/or in conditions where the focus of evaluation is on the individual rather than on the group. It must be underlined, however, that such speculations are premature until such time that the current findings are replicated.

#### Relationships Between the Different Components of Racial Prejudice

In looking at the intercorrelations between the measures of group perception, the current study found significant, positive relationships between higher prejudice scores on the MRA and (a) children's negative expectations from Black targets in hypothetical cross-

race peer contact situations (i.e., Composite REM score), (b) their expectations of a greater difference between Blacks and Whites with regards to the prevalence of their traits (i.e. Composite Trait Prevalence score), and (c) faster decision-making times with regards to White than Black targets (i.e., RTB-W score). These relationships were all in the expected direction, except for the direction of the relationship between the MRA and the response-latency measure about which no specific hypotheses had been made.

Interestingly, the results from the Trait Prevalence measure also indicated that children who had higher prejudice toward Blacks expected Blacks and Whites to be more different with regards to the prevalence of their positive traits, than with regard to the prevalence of their negative ones ( $r$  between MRA and PTV = .43 vs. .25 for between MRA and NTV). This finding lends support to previous studies (e.g., Bigler et al., 1997 and Bigler et al., in press) which have found that intergroup bias in children stems “from the differential evaluation of the positive (rather than the negative) traits,” and is related to the belief that “one’s in-group is nearly perfect and the out-group is merely good” (Bigler et al., in press, p. 30 of ms).

The finding that the Stereotyping measure was not significantly related to the MRA, despite the overlap of most of the items, suggests that the two measures may be tapping different evaluative processes. This interpretation is consistent with my previously presented proposition that the MRA and the Stereotyping measure may represent two points on a “continuum of impression formation” (cf. Fiske & Neuberg, 1990), with the MRA involving more category-based processes and the Stereotyping measure involving more individuation processes. The low correlations obtained in this study were somewhat in line with recent research on adults which has “shown that stereotypical beliefs about social groups may be only moderately correlated with expressed attitudes toward those groups” (Stangor et al., 1996, p. 664). The finding that the Stereotyping measure was not significantly related to any of the other measures of group perception in this study was

unexpected. One possible reason for the lack of correlations, however, may, again, be that the Stereotyping measure was the only measure of group perception that asked children to evaluate individual White and Black children by presenting actual photographs of group members, and so may have focused the attention of children more on the individuality of the targets (vs. their group membership) than the other measures.

Another measure that was not significantly related to the overall prejudice score on the MRA was the measure of children's perceptions of trait variance within groups (e.g., their use of all/none responses). It had been predicted that lower prejudice scores on the MRA would be related to the perception of more trait variance for the Black group (i.e., to less "all" or "none" responses), due to the greater "flexibility" in the thinking of Lower-Prejudiced children (cf., Doyle et al., 1988). Contrary to this prediction, the only measure that correlated significantly with perceptions of trait variance was the Expectation of Trait Prevalence measure. Children who expected less differences between Blacks and Whites in terms of the prevalence of their positive and negative traits were more likely than those who perceived more differences between Blacks and Whites to say that "none" of the members of the Black group had negative traits and that "all" had positive traits.

Overall, findings of moderate and significant correlations between the MRA and three (out of 5) of the other measures of group perception used in this study lend further support to the validity of the MRA. At the same time, however, the current findings support previous suggestions that there may be little consistency between the various components of racial attitudes, that various ways of assessing racial attitudes may not be equivalent, and that much consideration must be given to the methods used to assess and to infer the cognitive structures underlying racial attitudes (see e.g., Aboud & Amato, 2001; Bar-Tal, 1996; Bank, Biddle, Keats, & Keats, 1977; Branch & Newcombe, 1986; Dovidio & Fazio, 1992; Dovidio & Gaertner, 1991; Katz et al., 1975; Lerner & Buehrig, 1975; Lerner & Schroeder, 1975; Morland & Suthers, 1980; Nagata, 1985; Stangor et al., 1996).

Indeed, as articulated by Stangor and his colleagues (1996), low or insignificant correlations between measures of group variability, stereotypes and attitudes are “not unexpected, because it is assumed that different types of group beliefs are represented differently in memory (Smith & Zarate, 1992; Stangor & Lange, 1994). Attitudes and stereotypes about groups are generally assumed to be represented as summary representations of the group (evaluations in the case of attitudes, and ‘prototypes’ or ‘schemata’ in the case of stereotypes). Variability judgments, on the other, hand, are known to be determined in great part by the activation of stored group exemplars (memory for individual group members) (cf. Linville et al., 1986; Linville & Fischer, 1993; Smith & Zarate 1992)” (Stangor et al., 1996, p. 664-665).

#### Impact of Prejudice on Children’s Preferences for White and Black Peers

With regard to children’s expressed liking for actual and unknown Black and White peers, liking for White peers was consistently found to be positively and significantly correlated with the liking of Black peers (both actual and unknown), with correlations ranging from .31 to .49 on the three peer liking measures. That is, contrary to the hypotheses, greater liking for White peers was related to greater, rather than less, liking for Black peers. Support for these findings can be found in previous research on both children and adults which has found that having positive affect or attitudes toward one’s own group does not necessarily mean having negative attitudes or affect toward another group (see e.g., Messick & Mackie, 1989, Phinney et al., 1997). As suggested by the work of Phinney and her colleagues (1997), children who have higher positive affect toward same-race peers may have a greater acceptance of others due to their more secure ethnic or racial identities. It is also possible that children who express greater liking for same-race may be more extroverted in nature and like their peers in general, regardless of race.

The current study also found that higher MRA Composite and Bias scores (i.e., higher prejudice scores toward Blacks) were significantly related to lesser liking for both



White and Black unknown Targets. That is, children who were more negative toward Blacks tended to have more negative feelings toward people in general (i.e., regardless of race). One possible reason for this may be that children with higher levels of prejudice may be more suspicious, or have pessimistic expectations, of unfamiliar others, in general, than children with lower levels of prejudice.

Largely contrary to the predictions, children did not generally express greater preference for White versus Black known and unknown peers (i.e., no main effect for Race of peer). The only exception to this was children's expected liking for the "Buddies-for-the-day," but even then, the main effect for Race was subsumed by a two-way interaction which indicated that it was the girls, but not the boys, who expected to like the White Buddies more than the Black ones.

It had been predicted that children's liking or preference for White and Black, known and unknown, peers would vary as a function of their prejudice level. Again, contrary to the hypotheses, the only measure for which this was true was expressed liking for Black and White unknown Targets (i.e., unknown peers seen on the computer screen). On this measure, Higher- and Lower-Prejudice children differed significantly only in their liking of Black Targets, but not of White ones. Higher- and Lower-Prejudice children did not differ in their liking, nor ranking, of White versus Black peers on any of the other measures.

Interestingly, sex appears to have played bigger role than prejudice level in influencing children's liking for White and Black peers. Indeed, liking for White and Black peers varied as function of sex on all three measures of liking and ranking of unknown peers, with girls showing consistently more preference for White than for Black unknown peers, but not the boys.

Liking of White and Non-White actual peers, on the other hand, did not vary as function of sex, nor of prejudice level, but girls generally expressed greater liking for their

same-sex classmates than did the boys. These findings were contrary to the predictions that Higher-Prejudice children and girls would have greater preference for White than for Non-White peers. One reason for the finding that liking for actual peers did not vary as a function of prejudice level could be that actual peers in this study represented a racially heterogeneous group, whereas children's prejudice scores were based on their attitudes toward the Black group only. That is, children's attitudes toward Blacks may not be a good predictor of their liking for all other racial or ethnic groups. Another reason for the lack of influence of prejudice level could be that liking for actual peers may be determined by a number of factors, such as the individual personality characteristics and behaviours of those peers, which go beyond group membership (cf. Bigler et al., in press). The current findings also lend support to previous suggestions (e.g., by Boulton & Smith, 1996) that expressed liking for unknown peers may be a better indication of racial attitudes than liking for actual peers.

The current findings of sex differences in children's liking for same- vs. cross-race unknown peers indirectly support previous studies which have found a greater tendency for racial ingrouping among girls than among boys (e.g., Hallinan & Smith, 1985; Sagar et al., 1983; Kistner et al., 1993). In a study by Kistner and colleagues (1993), for example, being a racial minority in one's classroom was found to be associated with peer rejection for girls, but not for boys. Based on these and similar findings they suggested that "the role of race in peer relations differs in boys and girls" (p. 446), and cautioned that "If girls placed in classrooms with few or no same race peers are at risk for rejection, then this practice must be carefully examined" (Kistner et al., 1993, p. 451).

It must be pointed out, however, that a consistent finding across the peer liking measures in this study was that even when children expressed greater liking for White versus Black unknown peers, their liking ratings for Black peers were at or above the neutral point of the response scale. Thus, it was that they liked White peers relatively more

than the Black peers, but they did not express dislike for these Black peers. This finding lends support to previous suggestions that “less liking for outgroup than for ingroup does not necessarily equal dislike for outgroup members” (Singh et al., 1998, p. 149, see same paper for review of studies).

Contrary to the predictions, the type of contact that children preferred with unknown Black peers did not vary as function of prejudice level, nor of the sex of the children. That is, regardless of prejudice level and sex, children gave higher ratings to being friends with, than to playing with, than to working with, than to inviting home the Black unknown peers. Post-hoc analyses revealed that children had a similar pattern of preferences for White unknown peers (i.e., preferring most to be friends with the unknown White peers and preferring least to invite them home). At most, therefore, the results indicate that children prefer some types of contact over others with unknown peers, regardless of prejudice level, their gender, and race of their peers.

#### Relationships Between the Different Measures of Peer Preference

A goal of this study had been the examination of the relationships between the different measures of peer preference (e.g., liking of unknown vs. known peers, ranking vs. liking measures) as a means of allowing comparisons of the results obtained by each of these methods of assessment. Based on the significant moderate correlations obtained between the two measures which assessed liking for unknown peers (i.e., liking for Targets and liking for “Buddies”), the two measures appear to be tapping a similar affective phenomena, yet do not appear to be completely interchangeable as assessment tools.

With regards to the comparison of children’s liking ratings for unknown versus known peers, this study found that children’s liking for unknown White peers was significantly related to their liking for actual White peers, but that their liking for unknown Black targets was not related to their liking for actual Non-White peers. One reason for the lack of a significant correlation between liking for unknown Black and actual Non-White

peers could be that the actual Non-White peers in this study represented a racially heterogeneous group, whereas the unknown peers were only Black. Another possibility is that children's liking for their White peers may reflect a general positivity toward same-race peers, that is, may be less dependent on their level of familiarity with these peers, whereas their liking for cross-race peers may be more dependent on their level of familiarity with these peers.

Contrary to the predictions, children's ranking of unknown Black peers as potential Buddies was not significantly correlated with their liking of actual White and Non-White peers, nor with their liking of unknown White Targets. But the placement of a greater number of Black peers in the top three ranks was significantly associated with greater liking for unknown Black Targets and potential Black "Buddies", and with less liking for White "Buddies." It appears, therefore, that children's liking for unknown Black peers may be a better predictor of their willingness to become actively involved with Black peers, than their liking for unknown same-race peers. The fact that children's ranking of unknown Black peers as potential "Buddies-for-the-day" was related only to their liking for Black and White "Buddies", and not to any other peer preference measure, may also be due to the effect of shared method variance.

#### Relationships Between Group Perception and Peer Preferences

A final goal of this study had been to examine relationships between measures of group perception and peer preference. I had first asked whether the different measures of group perception would be similarly correlated with each of the peer preference measures? Overall, the results of the correlations revealed some similarities in the relationships. One was that none of the measures of group perception were significantly related to the ranking of the Black "Buddies," nor to the liking of actual White and Non-White peers. All significant correlations were with the liking of unknown Black and White peers (i.e., Targets and "Buddies"). Based on these findings, it appears that children's racial attitudes

and expectations may be more strongly related to their affect toward unknown members of racial groups than to their feelings toward known members, and to their expressed preferences for unknown peers when such expression may lead to a greater behavioural commitment on their part toward these peers (such as the children believed would be the result of their ranking of the “Buddies-of-the-day”).

Unexpectedly, another similarity in the relationships was that almost all the significant correlations between group perception and liking were in a negative direction, that is, higher bias toward Blacks was related to less liking for both White and Black unknown peers. The only exception to this was the positive correlation between the MRA Bias score and liking for White Buddies. These findings indicate that those with more negative attitudes toward Blacks may have more pessimistic expectations of others in general, and, therefore, may not expect to like others whom they do not know.

Of the measures of group perception, the Composite score of the MRA had the highest number of significant correlations with the peer preference measures, being correlated with the liking of unknown White and Black Targets and “Buddies,” but in the negative direction. Unexpectedly, the MRA Counterbias score was not found to be significantly related to any of the peer preference measures. This finding appears to be inconsistent with the results of Aboud’s (1993) study which found Counterbias scores to be significantly correlated to several peer-relations indices, such as to having more Black “chums,” to having fewer White friends and to lower rejection of Black classmates. Two differences between the Aboud’s (1993) study and the current one, however, are that the significant correlations obtained in the current study were with liking of unknown, and not of actual peers, and that, unlike Aboud’s study, the Non-White peers in this study were not only Black children.

Contrary to expectations, the composite scores of the Racial Expectancy (REM) and Stereotyping measures were not significantly correlated with any of the peer preference

measures. It is unclear why these two measures were not related to children's liking and ranking ratings. The component scores of these two measures (i.e., positive-White, positive-Black, negative-White, and negative-Black scores), however, were, the only ones (i.e. of all the components scores of the group perception measures) which were significantly related to children's liking of actual White and Non-White peers. One possible reason for these significant correlations may be that, of the different attitude measures, only the Stereotyping measure, and to a lesser extent the Racial Expectancy Measure, asked children to judge individual targets, rather than groups. The Stereotyping measure, which had a larger number of significant correlations with liking of actual peers than the Racial Expectancy Measure, was the only attitude measure that used actual pictures of children. It is possible, then, that the types of judgments that are elicited by the Stereotyping measure may resemble more closely the types of evaluations that children make of their actual peers.

The second question that I had asked in this section was which of the measures of group perception would best predict which of the measures of preference for Black peers? According to the results of the multiple regression analyses, liking for unknown Black Buddies was the only peer preference measure that was not significantly predicted by any of the measures of group perception. Unlike the results of the correlations presented above, ranking of the Black Buddies, had the highest amount of variance accounted for by the combination of predictors (i.e., by measures of group perception and sex). Liking of the Black Targets was the only outcome that was significantly predicted by a combination of the group perception measures (i.e., without the addition of Sex as a variable). Of the measures of group perception, the MRA was the only measure that, by itself, added significantly to the prediction of a peer preference measure. The other measure that added significantly to the prediction of preference for Black peers was the WTVB score (which represented the degree to which children used all/none responses with regards to the Black

group), but it did so in an interaction with Sex. Contrary to expectations, Sex was a significant predictor for both the ranking of the Black “Buddies” and liking of the Black Targets.

The above results indicate that, on the whole, expressed liking and preference for unknown Black peers do not appear to be highly predictable from children’s group perceptions. This suggests that factors other than children’s attitudes, expectations of behaviours, expectations of trait prevalence, and perceptions of trait variance must be involved in determining children’s feelings toward unknown Black peers. As suggested by the available literature (see e.g., Aboud, 1988; Aboud & Amato, 2001; Brown, 1995; Hirschfeld, 1996; Katz & Dalmas, 1988; Katz & Kofkin, 1997; Tajfel & Turner, 1986; Quintana, 1998; also see Lutz & Ruble, 1995 for factors contributing to gender prejudice in children), other contributing factors may include children’s level of self-esteem, their social identity or the extent to which they identify with their own group, their ability to take the perspective of others, the influence of social norms, culture and context, parental and peer influences, and opportunities for positive contact with Black peers outside of school. In the current study, sex of the children was often found to be a stronger, or more consistent, predictor of children’s preferences than their perceptions of Black peers.

The final two questions that I had asked in this section were (a) whether some indices (i.e., Bias or Counterbias) and components (i.e., positive-White, positive-Black, negative-White, negative-Black scores) of the MRA were better than others in predicting each of the preference measures, and (b) whether there was a predictive advantage to using the Indices rather than the Component scores of the MRA, in terms of predicting peer preferences. The results of the current study suggest that the Component scores, together, may account for a greater amount of variance in the prediction of the various liking and ranking measures for unknown Black peers, than the Indices of the MRA. Of the Component scores of the MRA, Positive-Black evaluations were the only significant

predictors of the peer preference measures, a finding which is consistent with the results of Aboud's (1993) study. Of the Indices of the MRA, Bias appeared to be a stronger predictor for some measures, but not for all. This finding is somewhat inconsistent with the results of previous studies which have found Counterbias scores to be stronger predictors of a number of outcomes (e.g., Aboud, 1993; Doyle & Aboud, 1995), and indicates that further research is needed to examine the relative predictive values of the Bias vs. Counterbias scores. The results of this study also suggest that sex of the children, whether on its own, or in an interaction with certain evaluations on the MRA, may be more consistently and strongly associated with children's preferences for unknown Black peers than their expressed attitudes.

### Conclusions

The questions examined in this study are believed to have implications (a) for the validity of the MRA, the further refinement of racial attitude measures for children, and the predictive value of individual differences in prejudice, (b) for the clarification of cognitive processes and knowledge structures underlying children's racial attitudes, (c) for the clarification of relationships between the cognitive and affective components of racial attitudes in children, and (d) for children's behaviours and affect toward, as well as expectations from, actual cross-race peers.

Overall, the results obtained in this study provide support for the validity of the MRA, as well as for the predictive value of individual differences in children's racial prejudice. Children who were categorized as Lower- or Higher-Prejudice on the basis of their scores on the MRA were shown to have expectations that were consistent with their prejudice level on a Stereotyping measure which tapped their expectations from individual, unknown, Black and White peers, as well as on another measure which assessed their behavioural expectations from unknown Black and White peers during hypothetical contact situations. Higher- and Lower-Prejudice children also differed in their expectations of the



prevalence of positive traits for Whites versus Blacks, as well as in their perceptions of the variance of traits within each group. Unexpectedly, however, prejudice level was only found to influence the liking of Black and White peers for one of the four peer preference measures (i.e., for the liking of unknown individual White and Black peers presented on the computer). Higher- and Lower-Prejudice children did not differ in their liking and ranking of potential Buddies, nor in their liking of actual peers. It appears, then, that affect toward cross-race peers, especially toward actual peers, may be dependent on a number of factors that were not considered in this study. Nevertheless, the MRA was the only one of the measures of group perception which contributed significantly to the prediction of preference for unknown Black peers.

Adding further support to the validity of the MRA was the finding of significant correlations between the MRA and children's behavioural expectations from hypothetical peers on the Racial Expectancy Measure, children's expectations of the prevalence of traits in Whites and Black groups, and the relative ease with which children made decisions about White than about Black targets. The meaning of the correlations between the MRA and the response-latency measure, however, remains to be clarified by further research. The finding that the relationship between the MRA and the Stereotyping measure was very low and nonsignificant, despite the great amount of overlap in the items, indicates that much care must be taken in the methods that are used to assess prejudice in children. That is, seemingly equivalent measures may in fact tap different evaluative processes. In the case of this study, the Stereotyping measure may have tapped individuated judgments more than category-based ones (cf., Fiske & Neuberg, 1990).

The current results also provide further insight on the content of children's racial attitudes. As one example, this study found that third-grade children were able to provide their estimates of the prevalence/variance of traits for groups that were racially based (vs. for gender-based groups or for groups based on minimal criteria, cf., Bigler, 1995; Bigler

et al., in press; Bigler et al., 1997). These results indicate that, much like adults, children's schemas, or knowledge structures, likely contain information about trait variability, in addition to information about the particular traits possessed by members of ethnic or racial groups members.

Unlike previous studies, however, it was the Lower-Prejudice children who appeared to perceive less variance for the outgroup than for the ingroup. But, as mentioned earlier, this could have been a result of the tendency of Lower-Prejudice children to say that "none" of the Black group had negative qualities and that "all" had positive qualities, whereas, they were more willing to admit to trait variation in their own group. Such a response pattern may have been an outcome of the possible motivation of the Lower-Prejudice children to hold on rigidly to their low-prejudiced beliefs, to strongly maintain their low-prejudiced identities, or, alternatively, as a result of having learned not to think of others as "bad" on the basis of race. These hypotheses remain to be studied in future studies.

This study also provides further insight into children's processing of information with regards to race. Interestingly, the Higher- and Lower-Prejudice children in this study differed in the speed with which they made decisions about Black versus White targets, and also differed in the readiness with which they responded to evaluatively positive versus negative questions, regardless of race. Although these results do not exactly replicate those in the adult literature, they do indicate possible differences in children's processing of race-related information which seem to be related to prejudice level. Whether such differences can be replicated, and whether they will be found to be meaningfully related to actual behaviour or to inferences, remain to be tested in future studies. Considering (a) the wide gap in our knowledge in this area about adults versus children, (b) the possible implications of such processing differences for children's evaluations, behaviours, and inferences with regard to outgroup members (cf., Bargh, Chen, & Burrows, 1996; Darley & Fazio, 1980; Diehl and

Jonas, 1991; Fazio, 1986 & 1990; Fazio & Williams, 1986; Newman, 1991; Snyder et al., 1980), (c) the numerous calls for the development of more subtle/implicit and sensitive measures of racial attitudes (see e.g., Bassili, 1996; Dovidio & Gaertner, 1991; Dovidio et al., 1997; Greenwald & Banaji, 1995), and (d) the possible implications of findings in this area for intervention efforts (e.g., as suggested by Bigler & Liben, 1993), developmental researchers should be encouraged to further pursue this line of investigation.

The results of this study also supported previous findings of relatively weak relationships between the various components of prejudice (e.g., Dovidio et al., 1997; Bigler et al., in press; also see Aboud and Amato, in press regarding this phenomena in children). In the current study, the measures of group perception did not, on the whole, account for a large amount of variance in predicting children's liking for unknown Black peers. Also consistent with previous research (e.g., Stangor et al., 1996) was the current finding that not all measures of group perception were significantly related to one another, indicating, that the different cognitive components prejudice, such as stereotypes, evaluations and perceptions of variability may not necessarily be related to one another in children (see e.g., Bigler et al., 1997 and Bigler et al., in press), as with adults (see e.g., Smith & Zarate, 1992; Stangor & Lange, 1994).

Much more consistency was found, however, in the relationships between the measures of peer preference, especially those which assessed liking for White peers, both known and unknown. In this study, children's expressed liking for unknown Black peers was not significantly related to their liking for actual Non-White peers. Whether this result was due to the fact that the actual Non-White peers represented a racially heterogeneous group, or because children's preferences for actual cross-race peers are determined by factors other than those which determine liking for unknown Black peers remains to be examined in the future. It is also suggested that future studies examine whether measures

of preference or liking for unknown peers are more reflective of children's racial attitudes than their actual peer relations, such as their best friendships.

A somewhat unexpected finding in this study was the consistency with which boys and girls differed in their group perceptions and their liking for same- versus cross-race peers. In addition to replicating these findings, it is suggested that future studies examine the consequences of such differences for both the children themselves and their cross-race peers. There is also a need for developmental researchers to examine the sources of such possible sex differences (as has been explored more theoretically by Fishbein, 1996).

It must be pointed out, however, that the current study had a number of limitations that need to be addressed in future studies. One limitation of this study was that, except for the MRA and the measures of trait variance and prevalence, all of the measures of group perception and peer preference assessed children's attitudes toward and liking for Black peers, but not toward Native Indian peers. It is not known, therefore, whether children's more positive attitudes toward Native Indians than toward Blacks on the MRA would have manifested themselves on the other measures in this study.

A second limitation of this study relates to the measurement of children's response latencies and to the priming of racial categories. Unlike the majority of similar studies in the adult literature, the priming of racial categories in this study was on a conscious level (cf. Carver et al., 1983). We do not know, therefore, whether factors such as social desirability may have influenced the responses of children on this measure. Also, the way in which the computer program was designed did not allow for the separate examination of "yes" and "no" responses to the questions. While this did not influence the measurement of decision-making time, this methodology did not allow the examination of the speed with which children endorsed (as opposed to made decisions about) positive versus negative characteristics belonging to White versus Black targets.

A third limitation of this study was that it could not test for the direction of influence between prejudice level and the various cognitive and affective components of prejudice. So, for example, this study cannot claim that prejudice had an influence on children's tendency to stereotype or to perceive greater variability between groups, since either or both of these variables could have possibly led to greater levels of prejudice. Similarly, it might have been that affect toward groups (i.e., liking for peers) had an influence on children's attitudes on the MRA, rather than attitudes having a determining influence on affect.

A fourth limitation was that the racial composition of the schools differed from one another. As an example, one school was much more homogeneously "White" than the others, and, as a result, had to be left off the analyses that looked at children's preferences for actual Non-White peers in their classrooms. The schools were also not comparable in the types of racial or ethnic groups that made up their Non-White population. One school, for example, had a large number of Native Indian children, but no Asian children, whereas none of the other schools had Native Indian children, but did have Asian children. Also, the Black children in the schools tested were often not the largest minority group, so that the White children in the study may not have had much exposure to Black peers in their school environment. Due to these reasons, it is not clear whether the attitudes of the children in this study were really not influenced by the racial composition of the classrooms that they were in, or whether some effect for school may have been found had the schools been comparable in the types of minority groups present, but differed in the relative proportions of the minority groups.

As with most studies, the current study leaves many more questions to be answered than it has answered. Indeed, the answers to the broader questions of how racial prejudice develops, how it is maintained, and how it can be changed are likely to be quite complex, requiring the integration of numerous methodological approaches and theoretical frameworks within psychology, as well as requiring interdisciplinary collaboration. One

starting point, however, is the continuation of research on not only universal factors that are related to racial prejudice at various stages of development, but also on the factors that account for why some children are less prejudiced than others, despite such universal influences. The study of individual differences in children's knowledge structures and processing of information about race is likely to provide a small part of the puzzle, but may have significant implications for intervention strategies aimed at helping children to perceive the underlying similarities inherent in seemingly diverse human beings.

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## APPENDIX A

## LETTER OF EXPLANATION FOR PARENTS

April 15, 1996

Dear Parents,

We are a group of researchers at the Centre for Research in Human Development at Concordia University who are studying children's development. One of topics that we are interested in is the kinds of information that children use in forming impressions and expectations of other boys and girls in the larger Canadian society. We are writing to inform you about a study taking place in your child's classroom and to request permission for your child to participate. The questions addressed in our study are of both theoretical and applied importance. For example, the results will provide information on how children use available information in forming impression of age-mates. Such information is important in helping educators and researchers understand how children's perceptions of others influence their interactions with peers. The details of our study have been discussed and approved by the Principal and by the homeroom teacher. We are now seeking your approval for your child to take part.

For the purposes of this study, we would like to conduct individual interviews with the children in your child's grade. In these interviews, children will hear some neutral descriptions of hypothetical children belonging to the various ethnic groups that are represented in the school population (for example, they will hear that a child "has a blue shirt" and "likes ice cream"). Children will then be asked about their expectations regarding these hypothetical children based on the neutral information. They will also be asked about their relationships with their classmates and friends (for example, who "hangs around" with whom). The study will require two fifteen-minute sessions, one week apart from one another, and will take place in a quiet room in the school building. The homeroom teacher will make sure that the interview is scheduled at a time that will not interfere with your child's class work. Participation in this study will have no bearing on your child's grades. As participation in this project is voluntary, children are free to withdraw from the interview if they feel uncomfortable, but on previous occasions we have found that they enjoy it.

All information obtained from this research will be kept strictly confidential. Children will be assigned a number and all further references to the child will be made according to this number. All reports concerning this study will not contain information about individuals, but will only focus on group findings. When our project is completed, both the school and the parents will receive a summary of the findings.

Please complete the attached form indicating whether or not your child may participate in the interview. We hope that as many children as possible, including your child, will participate. If you have any questions or would like more information, please feel free to call one of the researchers listed below. We can also be reached at: Concordia University, CRDH, 7141 Sherbrooke Avenue West, PY-170, Montreal, Quebec, H4B 1R6.

Thank you for your help and cooperation.

Sincerely,

William Bukowski, Ph.D.

Sepideh Zargarpour, M.A.

## APPENDIX B

## PARENT CONSENT FORM

Please read and sign the following:

I have read the letter describing the research project that will be conducted at my child's school. I understand that children will be asked about their expectations regarding hypothetical children belonging to various ethnic groups that are represented in the school population, and will also be asked about their relationships with their classmates and friends. I also understand that the study will take two sessions, each lasting approximately 15-20 minutes. I know that there are no known risks except those that children already encounter in their daily lives. I know that participation is voluntary and my child has the right to refuse to participate in this study or to end participation at any time. I understand that my child's responses will be confidential, and that no identifying information will be given in reporting the results of this research.

PLEASE CHECK ONE OF THE FOLLOWING:

\_\_\_\_\_ Yes, I give my child permission to participate.

\_\_\_\_\_ No, I do not give my child permission to participate.

My Child's Name Is \_\_\_\_\_ Grade \_\_\_\_\_  
(please print)

Child's Date of Birth (day/month/year) \_\_\_\_\_

\_\_\_\_\_  
Parent's Name (please print)                      Parent's Signature                      Date

**PLEASE SEND THIS FORM BACK WITH YOUR CHILD TO SCHOOL AS SOON AS POSSIBLE.**



## APPENDIX C

### **Child Assent Form**

Name \_\_\_\_\_ Boy \_\_\_\_\_ Girl \_\_\_\_\_

Age \_\_\_\_\_

School \_\_\_\_\_

### **STUDENT PERMISSION FORM FOR RESEARCH ON CHILDREN'S IMPRESSIONS OF OTHERS 1996**

I have been asked to be part of a project that is being done by some adults at Concordia University. This project looks at how children my age think about other kids. I know that I will learn about some boys or girls that I have never met before and then will be asked some questions about these children. I will also be asked about my friendships. I know that it is up to me if I want to be part of the project and I can decide to stop at any time. Also I know my answers are private. No one will know what I said except for the adults who are in charge of the project and their assistants. If I want to be part of the project I will write my name below.

My name is:

(Print) \_\_\_\_\_

Date \_\_\_\_\_

(Signature) \_\_\_\_\_