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SELF-COMPETENCE, SELF-ACCEPTANCE, AND ACCEPTANCE OF OTHERS IN INTER-ETHNIC RELATIONS: DEVELOPMENTAL STUDIES

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ABSTRACT

SELF-COMPETENCE, SELF-ACCEPTANCE, AND ACCEPTANCE OF OTHERS IN INTER-ETHNIC RELATIONS: DEVELOPMENTAL STUDIES

Maria R. Sufrategui, Ph.D.
Concordia University, 1988

The positive evaluation of ethnically similar others and negative evaluation of dissimilar others has been hypothesized to result in part from the individuals need to enhance or maintain self-esteem through social comparison. Perceived similarity may, however, be influenced by children's growing ability to differentiate, to use multiple characteristics, and to utilize internal psychological attributes as well as perceptual attributes for similarity comparisons. These cognitive trends should allow children to perceive their own ethnic group as other than all positive and other ethnic groups as other than all negative, that is, as more similar. Thus, ethnic bias should decrease with age. These issues were investigated in two studies.

In the first study, White children's ethnic bias toward Whites, Blacks, and Native Indians; concrete operation skills; perceived similarity within and between ethnic groups (i.e. Whites, Blacks, Native Indians); and perceived self-competence and acceptance were assessed. Thirty-five White kindergarten and 40 White third-grade children participated. The following hypotheses were examined: (a) that negative bias to other ethnic groups (i.e. Black and Native Indian) would decrease with age, (b) that third grade children would perceive less similarity within ethnic groups and more similarity between ethnic groups than kindergarten children, (c) that the cognitive changes influencing perceived similarity would predict ethnic bias within as well as between

ethnic groups, and finally (d) that there exists an inverse relationship between self-evaluations of competencies and ethnic bias, because individuals who assess themselves highly may have less of a need for self-esteem enhancement by comparison with similar others.

In the second study, 11 kindergarten and 14 third grade children who scored below the median for their age group in perceived self-competence-and-acceptance, were assigned to either a self-esteem enhancement or a control group. Both groups met with the author for six 30-minute sessions. The ethnic bias and self-evaluation measures collected for the correlational study were re-administered at post-test. Differences between the content of the training conditions were assessed. It was hypothesized that White children in the enhanced self-evaluation program as compared to their control counterparts would show more positive attitudes and increased liking for Blacks and Native Indians.

As hypothesized, on a forced-choice measure, third graders were found to be less biased toward Blacks and Native Indians than kindergarten children. On a free-choice measure, third graders attributed more negative traits to their owngroup and more positive traits to Blacks and Native Indians than did kindergarten children. Both age groups attributed a similar number of positive characteristics to owngroup and negative characteristics to the othergroups. Again, as hypothesized, third graders expressed more liking for Native Indians than did kindergarten children, but liking of Blacks did not differ with age. Consistent with expectations, third graders had higher cognitive development scores and perceived more similarity between ethnic groups than kindergarten children. Contrary to expectation, however, third

graders also perceived more similarity within ethnic groups than did kindergarten children.

Although some of the findings were in agreement with expectations, strong support for the hypothesized interrelations between cognitive development, perceived similarity, and ethnic bias was not found. Similarly, no relation between self-evaluation of competence/acceptance and ethnic bias was found in this study. A positive association between self-esteem and ethnic bias was obtained for third graders.

In the second study, the training paradigm was not instrumental in increasing kindergarten children's perceptions of competence/acceptance. Similar analyses for the third graders showed borderline increases in self-evaluations of competence/acceptance. The increase was similar for both enhancement and control groups, however, indicating the failure of the self-enhancement program to differentially enhance self-evaluation. Since no relation between self-competence/acceptance and ethnic attitudes was found in the first study, the hypothesis that increases in self-evaluations result in more positive attitudes toward and increased liking of other group members was not explored further in this second study. Theoretical and practical implications of the results and directions for future research are discussed.

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DEVELOPMENTAL PATTERNS IN MEASURES OF ETHNIC ATTITUDES AND THEIR RELATION TO COGNITIVE DEVELOPMENT AND SELF-EVALUATION

Young children prefer peers of the same sex (Charlesworth & Hartup, 1967; Parten, 1932; Serbin, Tonick, & Sternglanz, 1977), language background (Doyle, Rappard, & Connolly, 1980) and race (Rice, Ruiz, & Padilla, 1974). They hold negative attitudes to other ethnic groups (Vaughan, 1978). That is, children have more positive attitudes and preferences for similar others. These findings are particularly relevant in North America where classrooms composed of racially and ethnically different children are common (Chandler, 1980). Peck and Galliani (1962) reported that adolescents from ethnic minorities have difficulty attaining social acceptance, while Lewis and St-John (1974) found that acceptance by White peers facilitates the academic growth of desegregated Black children. Thus, negative attitudes and/or lack of acceptance of members of a racial/ethnic minority by the majority members may result in a variety of negative consequences including restricted experiences and inadequate peer relations. Since inadequate early peer relations have been found to be the best predictor of life adjustment (Cowen, Pederson, Babigian, Izzo, & Trost, 1973), the study of the factors influencing peer relations among different racial/ethnic groups is particularly important.

According to Byrne and Clore (1967) and Duck (1976), the tendency to express more positive attitudes and preferences for similar rather than dissimilar others is due to a "need for effectance". Duck, Miell, and Goebler (1980) defined "need for effectance" as a drive to establish that

one possesses appropriate perceptual and behavioral skills for the adequate conduct of one's daily activities. Festinger (1954) suggested that one's social attitudes, beliefs, opinions, or styles of behavior are validated to the extent to which they are shared by others. Accordingly, perceived similarity in attitudes, beliefs, or behavioral styles may be highly reinforcing (Byrne, 1972). Very young children, however, do not have the cognitive capacity to infer psychological attributes (Flavell, 1977), cannot use more than one criterion of classification (Piaget, 1926), and perceive the differences between themselves and others more readily than they perceive the similarities (Aboud & Mitchell, 1977). Therefore, salient perceptual (i.e. external) attributes (e.g. sex, race, language) differentiating groups become the main basis for similarity judgments (Aboud & Christian, 1979). Moreover, once young children have made the distinction between ingroup and outgroup, they tend to evaluate the ingroup positively and the outgroup negatively, as a means of enhancing self-esteem (Martin & Halverson, 1981; Tajfel, 1982; Turner, 1982; Wills, 1981). Thus, although perceived similarity may serve similar ego-enhancing functions in childhood and adulthood the number and the characteristics of attributes on which perceived similarity judgments may be based changes from childhood to adulthood. Other factors notwithstanding, a cognitive-developmental approach to ethnic bias would predict a decrease with age in ethnic bias as the capacity to perceive similarity against a background of apparent differences increases.

The present study was designed to document the effects of age, cognitive development and perceived self-competence and acceptance of White children on their racial attitudes towards, preferences for and

perceived similarity to Blacks and Native Indians. In addition, the effect of an experimental paradigm designed to enhance perceived self-competence and acceptance on White children's racial attitudes and ethnic preferences was assessed.

Development of Ethnic Attitudes and Preferences in White Children.

An attitude is defined as a predisposition to respond in a positive or negative manner toward a particular class of social objects (Aboud & Skerry, 1984). The social objects of attitudes may be people from different races, nationalities, religions, or language backgrounds.

The most widely used techniques to assess ethnic attitudes in young children have been modelled after the doll preference task developed by Clark and Clark (1947). This forced choice technique requires the child to choose a white or black doll in response to verbal requests concerning attitudes and preferences. It was employed by Ammons (1950) who found that by age 2 Caucasian male children differentiated on the basis of skin color and that 4 and 5 year olds showed negative attitudes toward Blacks. Clark (1955), Goodman (1952), Landreth and Johnson (1953) and Morland (1958), all using the doll choice task, found that White children preferred White racial models. In a more recent study, Crooks (1970) reported that all the Canadian White children in his sample selected a white doll in response to the question : Which doll would you like to play with?. Hunsberger (1978) modified the Clark and Clark doll choice measure for use with White Canadian and Native Indian children and found negative attitudes toward other ethnic groups and preference for owngroup in his sample of 5-to-9-year-old White children. Hraba and Grant (1970) reported white owngroup preference and owngroup positive attitudes in a

sample of children 4 to 8 years of age attending an interracial setting. Similar results were reported by Ward and Braun (1972).

Horowitz (1936) devised a forced-choice pictorial task to assess preschoolers ethnic self-identification, preference, and interest in interethnic participation in social situations. In the show-me test, children were requested to identify themselves from line drawings. In the second part, the ranks test, children were asked to rank order drawings of White and Black children in order of preference. Finally in the third part, social situations test, children were asked to say whether or not they wished to engage in a series of social situations depicted with either White or Black partners. Her results indicated preference for drawings of White children. Morland (1958,1962), using Horowitz's task, reported high owngroup preference in a sample of White children aged 3 to 5. In a later study, Morland (1966), also using a forced-choice pictorial task, investigated racial acceptance and preference in both Northern and Southern preschool children. His results indicated that White children identified and preferred their owngroup and that this preference and identification was greater for Southern than Northern children. Bartel, Bartel, and Grill (1973) asked 5-to 10-year-old White children to nominate peers in response to forced-choice positive intellectual questions (e.g. Who do you think is the smartest child in this room?), positive social questions (e.g. If you were captain of a team, who would you choose first to be on your team ?), and negative forms of these questions (e.g. Of the children in this room, who do you think has the most trouble learning things?, Who in this room would be the worst team captain?). The results indicated that children made more

positive and fewer negative attributions to the owngroup.

The results of these studies indicate owngroup preference and/or positive evaluation of owngroup members by White preschool and elementary school age children. This owngroup preference continues to increase until about age eight and then appears to decline (Aboud & Skerry, 1974; Rice et al., 1974; Williams, Best, & Boswell, 1975). This decline has been reported in at least one study to extend into adolescence (Kalin, 1979).

These findings, however, have been observed using forced-choice techniques in which the child is forced to select only one race at a time. This procedure has been criticized on the grounds that it precludes selection of the other race and therefore does not allow the measurement of children's acceptance of both races or the intensity of their preferences, and thus maximizes owngroup-othergroup differences (Aboud & Skerry, 1984; Jarrett, 1981). Results from the rare studies that have measured owngroup and othergroup attitudes independently indicate that attitudes towards othergroups may become less negative with age while attitudes to owngroup become more positive or remain unchanged (for a review, see Aboud & Skerry, 1984). In the present study ethnic attitudes and preferences were assessed using both forced and free-choice measures to ascertain the developmental course of ethnic attitudes and preferences in early childhood.

With respect to the age of appearance of racial preferences for social interaction, Moreno (1934) found no sociometric evidence of behavioral cleavage among young children of various ethnic backgrounds, including Caucasian children, until age ten. Similarly, Stevenson and

Stevenson (1960) reported no evidence of racial cleavage in the 2-to 3-year-old children they investigated. Criswell (1937), however, utilizing a similar assessment technique, found evidence of racial behavioral cleavage by eight years of age. Moreover, Lambert and Taguchi (1956), using a sociometric assessment method in which the questions were modified in such a manner as to be potentially more meaningful to young children, found racial cleavage among preschoolers of Oriental origin but not among those of Caucasian origin. McCandless and Hoyt (1961) and Ramsey (1983) also found racial cleavage among the preschoolers they studied. Jarrett and Quay (1983) found within group choice of best friends by kindergarten and first grade White children.

In sum, the results of these studies indicate that in early childhood White children express more positive attitudes and preference for others similar to themselves with respect to race. The role that similarity in attributes plays in various aspects of social relations such as attitudes, attraction, and preferences has also been documented, in different populations, for a host of variables other than race.

Relationship between Similarity and Attraction.

Social psychologists studying the phenomenon of attraction, a prerequisite for sociometric acceptance, have consistently shown in college students that attraction toward a stranger is a positive linear function of the proportion of that stranger's attitudes which are similar to those of the subject (Byrne & Clore, 1967). This association, labelled the "law of attraction", has also been documented for a myriad of other variables. Thus Griffitt (1966) observed attraction between individuals similar with respect to self descriptions. Byrne, Clore, and

Worchel (1966) found that attraction to a stranger was affected by the similarity of his economic status. With respect to more external features, Berkowitz (1969) reported a tendency to select as friends individuals who are close to one's own height. Byrne and Griffitt (1966) tested the "law of attraction" in children from grade four through twelve inclusively. Using an eight-item attitude scale on which a variety of topics ranging from poetry to racial integration were rated,they found at each age level that, as the proportion of similar attitudes increased, attraction also increased. Levine and Campbell (1972) found that perceived similarity promotes liking.

Familarity, at least to the extent that it entails propinquity or sharing a common environment, is one of the most basic levels of similarity. In this context, Gottman and Parkhurst (1980) assessed the verbal interactions of young children with friends and with strangers. They reported that friends engage in more connected conversations and more fantasy play than strangers. Doyle, Connolly, and Rivest (1980) observed 16 three-and-a-half year old children in a free play situation either with a familiar (i.e. classmate from the same preschool) or an unfamiliar peer (i.e. from a different preschool). They found that the number of social bids, amount of social interaction, and complexity of toy play during social interaction were higher in the presence of a familiar than an unfamiliar peer. Schwarz (1972) video-taped four-year-old children in a novel environment with a friend, a stranger, or alone. The results indicated that children were happier, more mobile, and more talkative with friends than with strangers or when alone.

The results reported by Gottman and Parkhurst (1980), Doyle et al.

(1980), and Schwarz (1972) suggest that perceived similarity based on familiarity, shared interests, and/or behavioral repertoires partly accounts for young children's differential play behavior. In support of this view, Kurdek and Krile (1982), working with samples of children in grades 3 to 8, found that compared with unilateral friends and non-friends, mutual friends were more similar to each other in both interpersonal understanding and perceived social self-competence.

Similarity also appears to result in preferences for different social partners very early in life. For example, Challman (1932) reported same-sex groupings in children ranging in age from 27 to 45 months. These results have recently been replicated by LaFrenière, Strayer, and Gauthier (1984) who found that preference for same-sex social partners begins as early as 28 months of age. Preference for same-sex social partners has been shown both in terms of greater same-sex contact during associative as well as cooperative play (Charlesworth & Hartup, 1967; Parten, 1932; Serbin et al., 1977) and by same-sex choices in sociometric nomination instruments (Jarrett & Quay, 1983; Marshall & McCandless, 1957; Moore & Updegraff, 1964). Moreover, not only do same-sex preferences develop early but they are more stable than cross-sex play preferences (Gronlund, 1955; Singleton & Asher, 1977). This tendency toward sex cleavages in children's peer groups increases during middle childhood and reaches its peak during preadolescence (Schofield, 1981).

Language spoken, like sex and race is a salient perceptual variable on which the child can initially focus to differentiate between self and others or between owngroup and othergroup. Language spoken has been shown to be an important dimension of perceived dissimilarity for

children as young as six years (Aboud, 1976). Only rarely, however, have studies assessed whether or not language spoken is a salient dimension in children's peer preferences and play behavior. Doyle (1982) examined the social interaction patterns and friendship choices of three-to five-year-old children within and across ethnolinguistic lines. As well, she assessed the role of second language competence as a factor in cross-group partner preferences. The findings indicated that social interaction and sociometric friendship choices were segregated along ethnolinguistic lines regardless of language fluency. In a subsequent study, Doyle, Beaudet, and Aboud (1988) evaluated developmental changes in Montreal English speaking children's ethnic attitudes toward French children. The results indicated that with increasing age both positive attributions to owngroup and negative attributions to othergroup decreased. These findings parallel those from studies on White children's racial attitudes, in which a decline by age eight in positive attributions to the owngroup (Rice et al., 1974; Williams et al., 1975) and a higher degree of cross-racial acceptance on a sociometric rating scale (Singleton & Asher, 1977) have been shown.

These findings indicate bias in young children toward more positive attitudes to and association with those that are similar, either because of familiarity, styles of play, or overt perceptual dimensions such as sex, language spoken, or race. Jarrett and Quay (1983) suggested that perceived similarity may account for owngroup choices. However, by age 9-10 there is an increase in positive attitudes toward others differing in sex (Serbin & Sprafkin, 1986), body weight (White, Mauro, & Spindler, 1985), language spoken (Doyle et al., 1988), and race (George & Hoppe,

1979; Williams et al., 1975). Aboud and Skerry (1984), after reviewing the literature on the development of ethnic attitudes concluded that attitudes toward othergroups become more positive with age. These findings have led investigators to study the relationship between ethnic attitudes and various age-related cognitive correlates. Davidson (1976) found an inverse relationship between negative ethnic attitudes and level of moral development which, in turn, was positively related to cognitive development (Kohlberg, 1969). Semaj (1980) reported that othergroup attitudes become more positive subsequent to the attainment of ethnic identity constancy which was also related to conservation skills. Clark, Hocevar, and Dembo (1980) also found a positive association between conservation skills and positive ethnic attitudes. These findings suggest that either similarity lessens its importance as a mediator of attitudes and preferences with age or that cognitive development affects the perception of similarity.

Evidence from the literature relating similarity and attraction in older subjects (Byrne & Clore, 1967; Griffitt, 1966) indicates that perceived similarity in attitudes, interests, etc. is an important determinant of attraction. Therefore, developmental studies of perceived similarity are important. Katz (1973a; 1976) and Lickona (1974) have theorized that the perception of similarity is influenced by cognitive processes.

<u>The Cognitive - Developmental Approach to the Similarity - Attraction Relationship.</u>

As outlined above, Katz (1973a; 1976) and Lickona (1974) hold the view that the patterns of attitudes and preferences for othergroup

members observed in childhood can be explained by the processes and stages of general cognitive development. This theory is parsimonious in its explanatory approach in that it views childhood attitudes and social preference as being intimately related to general cognitive and social development. At the core of this approach is the assumption that social development and social responses have their roots in cognition and that the cognitive base changes dramatically as a function of development.

According to Huston (1974) age and ensuing cognitive development are related to social relationships in at least the following three ways: (a) the socio-cognitive developmental level of the individual may be related to the character and integration of interpersonal sentiments, thus, influencing social relationships. For example, more egocentric children may like one another in a different manner than their more mature counterparts, (b) the antecedents of attraction will vary depending on the level of cognitive development and age, that is the dimensions on which the child focuses to make similarity-dissimilarity judgments that subsequently will lead to attraction will vary with age and level of cognitive development, and (c) individuals at different levels of development may express the same sentiments differently in the context of social interactions.

In what follows, the major cognitive changes taking place in childhood will be discussed insofar as they may affect the perception of similarity between self and others, ensuing attitudes in general, and ethnic attitudes and preferences in particular.

There are two kinds of information available when one observes others: (a) perceptual information about their appearance and behavior,

and (b) cognitive information derived from one's global expectations about people in general as well as about specific others. Children to a far greater extent than adults focus on overt perceptual information, i.e. what they can see and hear (Rosenberg, 1979; Shantz, 1975). The tendency of young children to rely on external perceptual information is due to a number of factors, including the fact that they do not have a set of organized cognitions about people including the self (Aboud & Skerry, 1984). According to Kolberg (1966) children develop a sense of "self" as an individual entity around age three. At this age they can also categorize themselves in terms of gender. The tendency to focus on perceptual information is reflected in children's descriptions of themselves and others in which there is a preponderance of external attributes. For example, Keller, Ford, and Meacham (1978), studying the salience of a variety of dimensions in the spontaneous self-concept of children 3 to 5 years old, found that activity was the most salient dimension used, and that the dimensions of the self-concept did not change from age 3 to 5. These authors suggested that their failure to find developmental changes in this age group may reflect the fact that major changes in self-definition do not occur until children start elementary school. At that time children encounter new forms of task demands, a change from home to school, and peer competition; and undergo general social and cognitive growth. In another study, Aboud and Skerry (1983) found that kindergarten children used mostly external attributes when describing themselves, and that the frequency of external attributes progressively declined between five and nine years of age. Montemayor and Eisen (1977) studied the development of self-definitions in children

from 4th to the 12th grade. They found a significant increase with age in self-dimensions concerning occupational role, existential-individuation (e.g. me, I), ideological and belief references, sense of determination, sense of unity, interpersonal relations and psychological style. A decrease in self-conceptions based on territoriality, citizenship, possessions, resources, physical self, and body image was also observed. These findings corroborate Werner's (1957) tenet that cognitive development proceeds from a concrete to an abstract form of representation. Along these lines, Flavell (1977) noted that socio-cognitive development appears to be a gradual process of differentiation of self from non-self, and that in this process, conceptions of self and others are gradually developed and elaborated. Consistent with this view, Lambert and Klineberg (1967), in their study of children's views of foreign people, noted that six year olds' responses were less numerous than older children's and were non-evaluative descriptions of facts or references to the good or bad qualities of the target populations. The descriptions of younger children focused on physical features, clothing, language, and behavior, whereas those of older children focused on personality traits, habits, politics, and religion.

Peevers and Secord (1973) have suggested that with increasing age there is a tendency toward greater differentiation in the description of the other's behavior and characteristics. They noted three levels of differentiation: undifferentiated, where the target individual is described in terms of his relations to the environment (e.g. "he has a lot of toys"); simple differentiation, where the description is in terms of global labels (e.g. "he is nice"); and differentiated, where personal

attributes are described (e.g. "he is good to others"). In addition, these authors observed that the depth of description also increased in the sense that with age there is an increased awareness of the specific situational, temporal, or internal states of others as well as a search for causal explanations. The development of other's concepts from concrete and undifferentiated to abstract and differentiated appears to be preceded by a similar process of conceptualization of the self. Thus, there is evidence that suggests that the development of ethnic perception lags relative to person perception since external (i.e. concrete) attributes continue to predominate in children's descriptions of their owngroup and othergroup at a time when they have been replaced by internal attributes in children's descriptions of themselves (Aboud & Skerry, 1983). According to Aboud and Skerry, the discrepancy between children's self-perception and their perception of other ethnic groups can be explained by the fact that distinctive perceptual characteristics are very salient, and therefore command most attention (McGuire & Padawer-Singer, 1976). According to Aboud and Skerry (1984) young children particularly find perceptual features salient Therefore, the salience of these overt perceptual features overrides any incipient thoughts that young children may have about the psychological similarity of people, and attention is, therefore, still directed to these external attributes. Thus, external attributes endure in children's descriptions of othergroup members beyond the time when they have declined in their self-descriptions. In addition, since children lack the capacity to infer internal psychological characteristics of others reliably until

around age 10 (Flavell, 1977), younger children are unlikely to use those dimensions to make similarity judgments. Thus, for young children, when the owngroup-othergroup dimension is defined by perceptual features, it is very salient. Consistent with this theory are the results of Aboud and Christian (1979), who presented second and fourth grade Jewish Canadian children with photographs of children from the following Canadian ethnic groups: English, French, Chinese, Indian, Greek or Jewish. Their task was to judge the similarity or dissimilarity of pairs of people including the self. The data were analyzed by means of multidimensional scaling, a technique that permits the extraction of the criteria used for making perceptual judgments of similarity-dissimilarity. The results indicated that a consistent criterion underlying judgment was ethnic membership as indicated by physical attributes. For example, the children in the sample perceived Chinese and Indian Canadians as outgroups. Language and behavior (i.e. a person who plays like me) were also used as criteria by some children. In an earlier study, Aboud (1977) asked kindergarten and first grade White, Indian, and Chinese children how an ethnic book character (White, Black, Indian, Chinese, Eskimo), was similar or different from themselves. The subjects responded on the basis of physical appearance, behavior, possessions, ethnicity, and language spoken.

These studies indicate the importance of overt perceptual features in the similarity-dissimilarity judgment of young children. Moreover, Brown (1961) and K berg (1966) have argued that young children judge as good all that is part of the self or similar to it. This process and the tendency to focus on perceptual features due to cognitive limitations

will result in young children evaluating positively those perceptually similar to themselves. Consistent with this view, studies of gender (Gronlund, 1955; Singleton & Asher, 1977), race (Rice et al., 1974), and language spoken (Doyle et al., 1988) indicate more positive attitudes toward the ingroup than the outgroup.

Development not only determines the type of characteristics (i.e. overt-external v.s. internal-symbolic) on which children focus to make similarity judgments but also information processing skills, such as the number of characteristics that can be considered at one time. Because young children have poor memory (Bush & Cohen, 1970), organization and information processing skills (Hagen & Kingsley, 1968, Sternberg & Rifkin, 1979) they are expected to be able to consider fewer characteristics of others and to rely more on stereotypes than older children (Martin & Halverson, 1981). Stereotyping involves the categorization of social information. It is believed that this process helps information processing and organization by providing simplicity and order where there is complexity and variation (Martin & Halverson, 1981; Tajfel, 1959). This function of stereotypes was shown in an elegant experiment conducted by Rothbart, Fulero, Jensen, Howard, and Bissell (1978). These investigators created a situation conducive to the formation of stereotypes. They provided information about members of a group at either high or low rates. When each individual group member was repeatedly associated with his own trait, the experimental subjects organized their perceptions at the individual level. However, when more traits were provided, thus making it more difficult for the subjects to memorize, the authors noted that the perceptions were clustered around

the group instead of the individual. They concluded that stereotypes result from the difficulty a person encounters organizing and storing information about the individual members of a group. In this context, the use of stereotypes can be viewed as an inevitable and normal process of cognitive functioning. Along these lines, Hamilton (1979) argued that whether individuals organize information at the trait, person, or group level depends on their organizational capacities, the judgment to follow, and the memory requirements needed to store the information. Accordingly, young children will tend to organize information around the group level more than older children since this requires less cognitive capacity (Aboud & Skerry, 1984). These processes, as well as the need to focus on perceptual features, may be at the basis of young children's use of the ingroup-outgroup dimension in judgments of similarity.

Another process that characterizes thought processes of three and four year olds is that which Piaget (1926) termed "transductive reasoning". Transductive reasoning refers to the generalization from the particular to the particular. Thus, children at this age will assume that because two people are similar in certain aspects, they must be similar in all aspects. As it concerns ethnicity, young children assume that individuals similar in one feature, e.g. ethnicity, must also be similar in other characteristics.

The social environment of the child can play an important role in either exacerbating or mitigating these general developmental processes by providing the child with labels and other verbalizations which can be applied to all members of a group. Providing common labels for group members has been found to increase intragroup similarity and between

group differences (Katz, 1973). One consequence of this "acquired equivalence of cues" (Dollard & Miller, 1950), is that evaluative statements and other behaviors may be more easily generalized to all group members. Moreover, the "acquired equivalence of cues" may be enhanced by transductive reasoning, which prevents the child from differentiating within a group.

Along these lines, Katz, Johnson and Parker (1970) found that children with negative intergroup attitudes perceived faces of another race as more similar to each other than did children with more tolerant attitudes. From these results, however, it is difficult to ascertain whether negative intergroup attitudes result in greater perceived intergroup similarity or vice-versa. Katz (1973b) answered this question by showing that increased perceptual differentiation of other group faces led to a decline in negative intergroup attitudes. Similarly, Katz and Zalk (1978) reported that increasing perceptual differentiation of other-race faces resulted in more positive interracial attitudes. Therefore, it appears safe to conclude that developmental processes (i.e. salience of external attributes, limited memory and processing capacity, transductive reasoning) underlie negative intergroup attitudes. The salience of external attributes for young children coupled with their inability to focus on personal attributes may tend to enhance their attention to the group membership and, therefore lead to segregation along perceptual dimensions in their associations. Perceptual differentiation training (Katz & Zalk, 1978) may, therefore, help to improve intergroup relations if implemented at 3-4 years of age when the child is prone to perceive high intragroup similarity and between group

differences (Katz, 1973b; Lickona, 1974). In White children, both processes have been found to diminish by age 10 (Genessee, Tucker, & Lambert, 1978), perhaps due to the cognitive changes that take place between 4 and 10 years of age.

A major cognitive developmental advance in early childhood is the transition at 5-7 years of age from preoperational thinking to concrete operational thinking (Kohlberg, 1969). Concrete operational thinking involves the capacity to reason logically about classes, relations, and quantities when dealing with concrete objects. Children at this stage of cognitive development can conceptualize a large class and its subclasses simultaneously, or in other words, master multiple classification. They can thus think of members of a different ethnic group as being possibly similar to the self on characteristics other than overt-external ethnic features. In addition, children at the concrete operational stage can conserve properties such as number, class membership, length, and amount in the face of apparent change. In order to successfully solve the logical problem posed by conservation tasks children need to possess the many skills of identity, compensation, and reversibility, that is the ability to comprehend that for every action there is an opposite action to negate it. These newly acquired abilities of the concrete operational stage are in marked contrast to those of the preoperational stage when children have difficulty focusing on more than one perceptual dimension at a time, and in addition can focus on only one emotion (Harter, 1982). Moreover, children at the concrete operational thinking stage have the capacity to focus on internal attributes (Aboud & Skerry, 1983; Livesley & Bromley, 1973) as well as external perceptual cues when making

similarity-dissimilarity comparisons. At this stage, children have also developed the ability to conceptualize two feelings in a temporal sequence (Harter, 1982). Therefore, it is possible to conclude that children's level of cognitive development helps to broaden the range of attributes on which similarity judgments may be based. These changes, in turn, appear to influence ethnic relations and other social relationships. For example, Katz and Zalk (1978) reported that the perceived similarity between same and other-race members was greater for White fifth graders than for White second graders. Moreover, these investigators found that White second graders attributed more positive events to their owngroup members and more negative events to the othergroup members (i.e. Blacks) than their fifth grade counterparts on the Katz and Zalk Projective Prejudice measure (Zalk & Katz, 1976). Similarly, Doyle et al. (in press) found that with increasing age both positive attributions to owngroup and negative attributions to othergroup decreased.

In sum, cognitive development proceeds toward increased differentiation and abstraction which is manifested in the conceptualization of the self (Aboud & Skerry, 1983; Keller et al., 1978; Montemayor & Eisen, 1977) and others (Lambert & Klineberg, 1967). Such differentiation is postulated to affect the relationship between self and others as mediated by the capacity to perceive similarities and differences. For example, children developing the capacity to infer psychological attributes also develop the capacity to discern interpersonal similarity against a background of overt perceptual dissimilarities (Lickona, 1974). In other words, cognitive growth

entails the availability of a wider range of dimensions on which it is possible to make similarity-dissimilarity judgments. Moreover, cognitive development will also tend to lessen the salience of perceptual features as the basis for similarity-dissimilarity judgments since these attributes may find competition from more internal psychological attributes which children at the concrete operational stage can consider and process. Accordingly, older children should be more capable than younger children of perceiving similarities intermixed with apparent differences between themselves and others. This increased sensitivity to similarity may result in a greater range of possible friendship choices and more positive attitudes toward perceptually dissimilar others. This view is supported by the previously discussed findings of the developmental patterns in attitudes toward others dissimilar to the self in perceptual characteristics (e.g. Doyle et al., 1988; White et al., 1985; Williams et al., 1975). In the present study this postulated relationship between cognitive development, perceived similarity, and ensuing ethnic attitudes and preferences was investigated. It was predicted that cognitive advancement would result in greater perceived similarity and more positive attitudes and preferences for ethnically dissimilar others.

The Relation of Perceived Similarity to Ethnic Attitudes, Preferences and Social Relations: Theories.

Various theories have been proposed to account for the relationship between perceived similarity and attraction, attitudes and preferences. Newcomb's (1961) balance theory stressed the importance of perceived similarity for friendship and the structure of informal groups. Byrne

(1969, 1972) suggested that similarity leads to liking because it provides an individual with independent evidence as to the correctness of his interpretation of social reality, a validation of his point of view, which should allow him/her to deal in a more confident manner with his surroundings. Thus, similarity is believed by Byrne to reinforce one's "need for effectance". Festinger (1954) articulated a comprehensive theory explaining the manner in which individuals attempt to evaluate their opinions and abilities by comparing themselves with others, particularly in situations where objective, non-social means of comparison are not possible. Central to Festinger's theory of social comparison are a number of tenets, (a) there exists in each person a need to assess his/her opinions or abilities, (b) individuals in situations of uncertainty will compare their abilities with those of others and (c) comparisons will be made with similar others since comparisons with dissimilar others make accurate assessments difficult. Research on social comparison has repeatedly validated Festinger's propositions in the case of adults (Latane & Darley, 1970; Sanders, Baron, & Moore, 1978).

The process of social comparison seems to appear at about 4 years of age. In this context, McClintock, Moskowitz, and McClintock (1977) reported that three-and-one-half year olds are relatively unconcerned about how much others receive vis-a-vis themselves. But, between four and a half and five years comparison becomes increasingly important. After reviewing the literature on social comparison processes in young children, Masters (1971a) concluded that by age 4 children engage in social comparison. Observing 3 to 6 year old children in a naturalistic

free play situation, Mosatche and Bragonier (1981) noted that even 3 year-olds were involved in social comparison processes. Ruble, Boggiano, Feldman, and Loebl (1980) suggest that the absolute capacity for social comparison may be present rather early in life, and that age may have more influence on the weighing of information for self-evaluation. Comparison behavior may occur earlier for concrete entities (e.g. "Who is fastest?") than for psychological constructs, in tandem with developmental processes marking a shift from global-concrete to differentiated-abstract. Support for this position is provided by Barenboim (1981) who studied comparison behavior in 6, 8, and 10 year-old children and found that behavioral comparisons first increased and then decreased with increasing age, giving way to an increase in the use of psychological comparisons.

Aside from the issue of the development of social comparison per se, there is the related aspect of with whom young children compare themselves to evaluate their abilities. Research assessing this issue is scarce. However, Brown's (1961) contention that young children assess themselves as good would indicate a focus on similar others for social comparison purposes since similar others would also be assessed positively due to the operation of the "transductive reasoning" process. Consistent with this view, Strang, Smith, and Rogers (1978) reported that when multiple reference groups are available for comparison (i.e. similar as well as dissimilar others), mainstreamed handicapped children integrated into regular classrooms for part of the day selected similar others for comparison purposes. Similarly, Silon and Harter (1986) found that mainstreamed retarded pupils compared themselves with other

mainstreamed retarded pupils, whereas self-contained retarded pupils used other self-contained pupils as their comparison group. The authors interpreted these findings as indicating that by comparing themselves with other handicapped children, they could protect their self-esteem. As previously noted, Tajfel (1978) and Martin and Halverson (1981) have also suggested that in order to enhance themselves individuals develop a bias toward similar others and against dissimilar others. Morse and Gergen (1970) found that physical similarity between subject and stimulus person tended to increase self-esteem while dissimilarity tended to reduce it. They interpreted this finding in terms of Byrne's consensual validation hypothesis which predicts that one reason for an increase in self-esteem in the presence of someone who is similar is that he validates or lends support to one's manner of being. This increment in self-esteem may be a major intervening mechanism prompting social attraction. Because another is similar, he/she increases one's esteem for self, and in as much as enhanced self-esteem is positively valued, the other may become the target of attraction.

In sum, it appears that perceived similarity leads to liking because it allows individuals to validate their opinions and abilities, thus satisfying their "need for effectance" (Byrne, 1969, 1972) and protecting or enhancing their self-esteem (Martin & Halverson, 1981; Silon & Harter, 1986; Tajfel, 1978). It merits asking why self-esteem is so significant to the individual.

The Self-Theory: Self-Concept and Self-Esteem.

The construct of self-esteem has, together with that of self-concept long occupied a central position in personality theories (Allport, 1955;

Rogers, 1961). Maslow (1954) thought of self-esteem as one of the basic components of the individual's hierarchy of needs. There is increasing evidence that both self-esteem and self-concept play a significant role in social and psychological adjustment and academic achievement (Black, 1974; Chapman & Boersma, 1979; Johnson & Kanoy, 1980; Rubin, Doyle, & Sandidge, 1977; Shiffler, Lynch-Sauer, & Nadelman, 1977). Epstein (1962) and Motoori (1963) have indicated that the self-theory may prove to be the best operational grounds for designing effective treatment programs for juvenile delinquents and have linked delinquent behavior to low self-esteem. Research and clinical observations indicate that low self-esteem is consistently associated with depression (Coopersmith, 1968). Burdett and Jensen (1983) found higher rates of aggressive behavior among children with low self-esteem than among their high self-esteem counterparts. Galluzzi and Zucker (1977) found self-esteem to be positively related to adjustment in children. Steinberg (1985) reported a positive association between popularity and self-esteem. As it concerns social relationships, Deutsch and Solomon (1959) suggested that the person's self-esteem should influence how receptive he or she is to love and affection. According to these authors, because high self-esteem individuals like themselves they tend to believe that others like them. Lewinsohn, Mischel, Chaplain, and Barton (1980) found that individuals who evaluate themselves highly tend to overestimate how positively they are perceived by others. This is in agreement with findings that individuals interpret life events in a manner that is congruent with their own prior self-appraisals (Simon & Berstein, 1971). Moreover, it can be postulated that the expectation to be liked of high

self-esteem individuals may result in less fear of rejection and, thus, account for the tendency that high self-esteem individuals exhibit to associate with both similar and dissimilar others (Deutsch & Solomon, 1959). This view is shared by Walster and Walster (1963). Fine (1981) and Putallaz and Gottman (1981) reported that children with high self-acceptance tend to approach others whereas those with low self-acceptance are reluctant to initiate social contacts. Simon and Berstein (1971) tested the hypothesis that the correlation between an individual's liking for others and his perception of their liking for him/her is dependent upon his or her self-esteem. As predicted, it was found that subjects with high self-esteem were more likely to believe that people whom they liked reciprocated their positive feelings.

As it concerns the significance of self-esteem to the individual, the previously discussed findings suggest that low self-esteem detracts from the individual's basic drive toward self-actualization whereas high self-esteem has the opposite effect (Rogers, 1951).

Despite the importance assigned to the self-constructs, i.e., self-concept and self-esteem, both in theory and in research, there is much confusion as to their conceptualization, making the interpretation of research findings difficult. Rogers (1947) conceptualized the self-concept as "the sum total of all characteristics a person attributes to himself, and the positive and negative values he attaches to them". Similarly, Cobb (1961) suggested that "the self-concept refers to the image we have of our own person, the way we think of ourselves and the quality of esteem which we attach to ourselves and our particular attributes". On the other hand, others view them as separate entities

with self-esteem being thought of as being the evaluative component of the self-concept. In this vein, Rosenberg (1965) wrote:" Self-esteem is a positive or negative attitude toward a particular object, namely, the self". Elder (1968) defined self-esteem as "feelings of personal worth influenced by performance, abilities, appearance, and judgments of significant others". To further complicate matters there is the controversy between the trait theorists' view that self-concept and self-esteem are enduring personality dispositions characterized by temporal consistency and the situational view that these constructs are variable states of self-
evaluation regulated by environmental events (Mally & Bachman, 1983).

Germain (1978) attempted to clarify this controversial state of affairs with respect to the self-theory as follows. The self is the source of actions. According to Germain, the self comes into existence the moment an individual becomes a separate entity and not when he is aware of being so. In this context it is meaningful to talk about the competencies or lack of competencies of the self. The self-concept is brought about by awareness of the individual as an independent entity. This awareness allows the individual to discriminate between those events stemming from the self and those that are generated externally to the self. The self, therefore, becomes the object of one's knowing and as such it can be congruent or incongruent with the knowledge others have of it. It is then possible to talk about a realistic or unrealistic self-concept and about its extensiveness (i.e. large number of self-descriptors) or narrowness (i.e. small number of self-descriptors). When the self is involved in an activity, the individual may process or fail

to process information available to him/her about his or her self. The amount of information he/she processes will influence how extensive or narrow his/her self-concept is. Moreover, it has been suggested (Epstein, 1973) that individuals with an extensive self-concept are able to process more information about their own and other's self. Therefore, it is possible to think of the extensiveness-narrowness dimension of the self-concept as being both the cause and the effect of information processing and, therefore, it can serve functions concerning social interaction.

According to Epstein (1973) an individual with a varied or extensive self-concept will be more aware of his feelings, ability, and personality characteristics than an individual with a narrow self-concept. Similarly, it is possible to speculate that an individual with a broad self-concept (i.e. large number of self-descriptors) will be more apt to recognize in others attributes that he possesses and of which he is aware. This, in turn, may result in a broader range of individuals to whom he perceives himself to be similar and to whom he may, therefore, be attracted and subsequently exhibit more positive attitudes and acceptance of seemingly dissimilar others since similarity leads to affiliative behavior (Kohlberg, 1966).

On the other hand, individuals with a narrow self-concept will be able to process less information about their own and others' self. Unable to cope with information overload they will tend to rely more on stereotypes. Since ethnicity is a readily available category, it can be speculated that individuals with narrow self-concepts will process only salient perceptual features about ethnicity and others since it provides

less information than internal attributes.

Aboud and Skerry (1983) reported that one function served by the self-concept is that of maintaining self-constancy. Self-constancy or the ability to appreciate invariant information about the self is, according to Flavell (1977) one of the milestones of social-cognitive development. It has been found to be related to the development of cognitive structures such as conservation as well as to more positive attitudes toward outgroups (Clark, Hocevar, & Dembo, 1980; Semaj, 1980). According to Aboud and Skerry (1983), the attainment of self-constancy depends on the prior ability of the child to conceptualize certain self-cognitions as essential components of his/her identity, that is, components without which he/she could not be the same person. The designation of certain self-attributes as essential was observed by these authors to increase between five and nine years of age. Specifically, these authors observed that five out of 20 kindergarten age children never produced an essential attribute in response to a direct question on essentialness, while 10 children responded that only one attribute was essential. Second graders, on the contrary, were able to produce at least one essential attribute. The nature of essential attributes changed between the ages of five and nine in that a larger proportion of social and internal attributes were considered by older children to be essential; internal attributes continued to increase after age nine.

These findings together with many others from studies concerning developmental, age-related characteristics of the self-concept (Aboud & Skerry, 1983; Arend, Gove, & Sroufe, 1979; Harter, 1983; Keller et al., 1978; L'Ecuyer, 1981) indicate that the dimensions in the self-concept

become more differentiated, psychological (i.e. internal), and abstract with age. This trend is illustrated particularly well by the results of Damon and Hart (1986) concerning the stability and change in self-understanding of children aged 4 to 18 years. Changes in the self-concept parallel and are likely linked to changes in cognitive development since both proceed toward greater differentiation and abstraction (Elkind, 1975). It is possible, therefore, to construe the development of the self-concept as a particular aspect of general cognitive development.

Self-esteem is defined by Germain as being the positive or negative evaluation attached by the individual to his or her self as it is known to him or her; or in other words to the self-concept. It follows from this discussion that the self-concept is a cognitive structure while self-esteem is an affective structure. Germain (1978) further suggests that the order of development from self to self-concept to self-esteem is a logically necessary progression, in that one must exist in order to act and act prior to being able to obtain information about the self as an actor. Once information about the self as an actor is obtained it can be given a positive or a negative valence and by so doing self-esteem develops. The process by which the self attaches either positive or negative affect to its actions appears to be twofold: (a) based on specific task-related criteria for performance and (b) based on norms or comparisons made between oneself and others as previously discussed in the context of social comparison processes. Along these lines, Coopersmith (1968) studied the factors affecting the development of self-esteem and reported a significant correlation between self-esteem

and patterns of paternal and interpersonal relationships with significant adults. Lee (1972) argued similarly to Coopersmith that appropriate interpersonal relationships lead to enhanced self-esteem.

In sum, for Germain (1978) self-esteem is a unitary, affective, and evaluative construct. On the other hand, Norem-Hebeisen (1977) proposed a multidimensional conceptualization of self-esteem composed of primary and conditional bases of self-acceptance, real-ideal congruence, and self-evaluation. In this conceptualization, self-acceptance is a preverbal emotional acceptance or rejection that is developed before an individual has developed a conceptualization of self. Components of self-acceptance include a sense of well being, personal autonomy, freedom of feeling and freedom in relationships. Conditional acceptance relates to acceptance resulting from meeting standards. Need for approval and the need to meet personal standards of performance are the components of conditional acceptance. Real-ideal self-congruence relates to perceived consistency or inconsistency between what someone is and his/her ideal of being. Self-evaluation is the person's judgment of how he or she compares with others. Harter (1982), on the basis of William James' proposition that one's self-esteem represents the ratio of one's successes to one's pretensions, has argued that one's self-worth represents one's evaluation of how adequately one is performing in areas of importance to the self. Accordingly, high self-worth would result from successes or feelings of adequacy in areas considered to be important to the self and low self worth results from feelings of inadequacy in those domains. Working within this general framework, Harter has isolated the domains important to preschool, kindergarten, and

elementary school children as well as the activities within these areas that are particularly important to children in making judgments of competence. The outcome of these efforts has resulted in her construction of two scales designed to assess her self-esteem construct. Moreover, Harter's (1983) empirical findings led her to conclude that the young child is not yet capable of making judgments about his or her self-worth as a person since the concept of "personness" is not firmly established prior to age 8 nor is the notion that the self so defined can be evaluated as a global entity. In Harter's conceptualization of the self-evaluation process, self-esteem is viewed as a superordinate construct and competence and acceptance judgments represent one type of lower order evaluative dimensions. Evidence supporting this view comes from the pattern of intercorrelations between the different competence and acceptance domains and the more general subscale of "self-worth" or self-esteem constituting the Harter scales (Harter, 1983).

Theoretically, Harter's conceptualization of the process of self-evaluation appears to be related to the "need for effectance" construct. It is defined as a need to assess one's competencies at dealing with the world (Byrne & Clore, 1967; Duck, 1976; Duck et al., 1980) in the service of enhancing self-esteem through validation of opinions, attitudes and beliefs. This construct has in turn been used to explain the observed preference and positive attitudes for similar others insofar as they contribute to self-evaluations of opinions, attitudes, behaviors, etc. (Festinger, 1954). To the extent that social comparison is more accurate with similar others, in the interest of enhancing self-esteem (Martin & Halverson, 1981, Tajfel, 1982) similar others, including

ethnically similar others, will be preferred. Those with high self-esteem should have less need to enhance themselves through social comparison. High self-esteem individuals may therefore show less preference for owngroup.

The Present Study: Summary of Rationale and Hypotheses.

Two major findings have emerged from research on the development of ethnic attitudes in White children. First, very young White children hold negative attitudes toward other ethnic groups (Vaughan, 1978) and prefer peers of the same sex (Charlesworth & Hartup, 1967), language background (Doyle et al., 1980) and race (Rice et al.,1974). It appears that similarity in salient perceptual features may be one basis for positive attitudes and preferences in young children. Although the relationship between perceived similarity and attraction has been extensively studied in adults (Byrne & Clore, 1967), research with children is scarce and indirect, particularly as it pertains to ethnic attitudes (Katz, Sohn, & Zalk, 1975). The present study was, partly, an attempt to shed light directly on the postulated relationship between perceived similarity and the ethnic attitudes and preferences of young White kindergarten and third grade children.

A second finding is that by age 8 or 9 years White children's positive attitudes toward their own ethnic group and negative attitudes toward other ethnic groups decline (Aboud & Skerry, 1984; Doyle et al., 1988). This finding has been observed on both forced-choice and free-choice measures of ethnic attitudes.

The finding that young White children's ethnic attitudes become less negative with age raises the question of whether or not similarity loses

its importance as a mediator of racial attitudes and preferences with age. This seems unlikely, however, since social psychologists have consistently shown that attraction toward a stranger is a positive linear function of the proportion of that stranger's attitudes which are similar to those of the subject (Byrne & Clore, 1967). Byrne and Griffitt (1966) tested children from grade 4 to 12 and reported that at each grade level as the proportion of similar attitudes increases attraction also increases. These findings indicate that similarity continues to be an important determinant of attitudes and preferences. As previously reviewed, what seems to change with age and cognitive development are the dimensions on which similarity judgments between self and others are made, i.e. from perceptual to social and internal, as well as the capacity to process multiple dimensions simultaneously. As previously discussed, the major cognitive developmental aspect of this period is the transition from preoperational thinking to concrete thinking.

At the preoperational stage children cannot classify along more than one dimension of a physical or social stimulus, proceed from particular to particular (transductive reasoning), cannot infer internal attributes, and cannot conceive of two divergent emotions (e.g. good, bad) as coexisting. As it pertains to ethnic attitudes this will result in : (a) a focus on observable attributes to make self-others similarity-dissimilarity judgments, (b) the use of one dimension only, the most perceptually salient (e.g. race) to classify others, (c) the belief that if two people are similar on one attribute (e.g. ethnicity) they must be similar in other attributes, and finally (d) the evaluation of self and similar others as good (i.e. positive attributions) and dissimilar others

as bad (i.e. negative attributions) since good and bad cannot coexist at this age (Damon & Hart, 1986).

The child at the concrete operational stage has acquired the capacity to infer psychological attributes, understands that different valence emotions (e.g. good, bad) can coexist, and has mastered multiple classification. Therefore, at this stage children can think of members of other ethnic groups as being similar to the self in more than overt perceptual features. Thus, children's level of cognitive development helps them to broaden the range of attributes on which similarity judgments may be based. Accordingly, someone who is perceptually dissimilar because of sex, language or race, (i.e. salient external attributes) may, nevertheless, be perceived as being similar to the self on a range of non-observable (i.e. psychological) attributes and this may account for the less negative attitudes toward other ethnic groups observed in White children with increasing age (Doyle et al., 1988; Williams et., 1975). In the present study level of cognitive development was assessed by a series of Piagetian conservation tasks (see Measures) and its relation to perceived similarity and racial attitudes and preferences was ascertained for a sample of kindergarten and third grade White children. It was expected that older children would perceive other group members (i.e. Blacks, Native Indians) as more similar than would younger children. This greater perceived similarity would hold true both for self-other and owngroup-othergroup comparisons. This finding was anticipated under the assumption that the older children would be able to consider more dimensions than the salient perceptual dimension of race when making the required similarity-dissimilarity judgments. Given that

individuals assess similar others more positively and prefer them, the increase with age in postulated awareness of similarity was expected to result in: (a) more positive racial attitudes towards Blacks and Native Indians, (b) an evaluation of both the ingroup (i.e. White) and outgroups (i.e. Blacks, Native Indians) which was more differentiated, i.e. contained both positive and negative components, and finally (c) increased preference for othergroup members, as assessed by a social distance scale.

Finally, researchers have suggested that the reinforcing quality of perceived similarity to the individual results from the "need for effectance" or the need to assess one's competencies at dealing with the world so as to enhance self-esteem. For purposes of this study it was assumed that need for self-esteem enhancement is inversely related to self-perceived competence and acceptance. It was predicted, therefore, that children with higher self-perceived competence and acceptance would show more positive attitudes and preferences to othergroup members.

Method

Subjects.

A total of 75 White English speaking children participated, 16 males and 19 females in kindergarten and 20 males and 20 females in third grade. Children were recruited from four English language schools in suburban Montreal (see Table 1). A copy of the solicitation letter that was sent to the parents is included in Appendix A. For all children who participated, written parental consent was obtained (see Appendix B for consent form). Rates of acceptance, rejection, and no response were 56%, 4.5%, and 39.5% respectively.

Measures.

Demographic Data-Socio-Economic-Status Measure. Socio-economic-status information, which has been shown to be related to ethnic attitudes (Porter, 1971), was collected by means of a questionnaire completed by the parents (see Appendix C). Questions included concerned the parents' occupation, education, and marital status. The "Four Factor Index of Social Status (Hollingshead, 1975) was used as an index of socio-economic status. This index is based on the assumption that social status is a multidimensional aggregate. Because of its validity for predicting developmental status in young children, reliability, and ease of administration it has been highly recommended for use in developmental psychology (Gottfried, 1985).

Cognitive Differentiation Measure (Conservation). Level of concrete operational thinking was evaluated using an adaptation (Gulko, Doyle, Serbin, & White, in press) of the Goldschmidt and Bentler Concept Assessment Kit (1968). The child, assessed individually, is asked

Table 1

Demographic Characteristics of Kindergarten and Third Grade Children.

Grade	School			
	A (N=30)	B (N=27)	C (N=10)	D (N=8)
Kindergarten				
Number Males	4	8	2	2
Number Females	7	9	2	1
Mean Age (years)	5.7(.2)	5.9(.3)	6.0(.1)	5.8(.4)
Mean SES	44.0(7.4)	39.8(14.6)	32.3[a](6.6)	54.6(19.6)
Third				
Number Males	8	3	6	3
Number Females	11	7	0	2
Mean Age (years)	8.7(1.0)	8.9(.3)	9.3(.4)	9.2(.3)
Mean SES	47.7(8.5)	41.0(10.7)	27.2(10.5)	45.9(8.4)

[a]Children in School C were of significantly lower SES than children in schools A, B, and D, $p < .05$.

Note: Standard deviations are given in parentheses.

whether or not amounts of various substances or materials remain the same after as compared to before a perceptual transformation. To be able to succeed at this task the child has to go beyond the salient external dimensions and consider either the previous state of the substance or material or the compensatory relationship existing between two dimensions. Seven conservation tasks were administered: area, number, substance, continuous quantity, weight, discontinuous quantity, and volume, in that order. The volume task was not administered to subjects who failed the three previous tasks (i.e. continuous quantity, weight, and discontinuous quantity). On each task the child receives two points for answers indicating conservation and one or two points for partly correct or correct explanations. For purposes of this study, the sum of behavior (i.e. answers indicating conservation) and explanation scores was used as a measure of cognitive developmental level (see Appendix D-1).

To calculate the reliability of scoring of the conservation task, two independent scorers scored the verbatim recording of explanations given by 15 children. The correlation between the scores assigned by the two scorers was $\underline{r}$ = .99 indicating a high degree of interscorer reliability.

Perceived Self-Competence and Acceptance. The "Self Perception Profile for Children" was administered to third graders (Harter, 1978, 1982) and the similar "Pictorial Scale of Competence and Social Acceptance" (Harter & Pike, 1984) to kindergarten subjects. The assumption underlying these scales is that children do not feel equally competent in every skill domain. In addition, it is assumed that by age

eight, children have also constructed a view of their general self-worth as a person, over and above these specific competence judgments. This, according to Harter, highlights the hierarchical nature of the self-evaluation process whereby self-esteem or self-worth is seen as a superordinate construct and competence judgments represent one type of lower order evaluative dimensions. According to this model, judgments concerning one's overall self-worth are not inferred from adding the responses to items tapping various skills and attributes, rather, they are tapped by items which directly inquire how much the individual likes himself/herself as a person. Thus, Harter's (1978, 1982) "general self-worth" scale is composed of items which make reference to being sure of oneself, being happy with the way one is, feeling good about the way one acts, and thinking that one is a good person. In addition, the "Self Perception Profile for Children", eight years and older is composed of five other subscales designed to evaluate children's specific competence and acceptance in the scholastic, social, athletic, physical appearance, and conduct or behavior areas. The scholastic competence subscale focuses on academic performance (doing well at school, being smart, feeling good about one's classroom performance, etc.). The social acceptance subscale is composed of items pertaining to one's peers (having a lot of friends, being easy to like, and being an important member of one's class). According to Harter, the items on the social acceptance scale tap the degree to which the child is accepted by his peers. The athletic competence subscale focuses on sports and outdoor games. The items of the physical appearance subscale tap the degree to which the child is happy with how he/she looks, likes his/her height,

weight, body, face, hair, and feels that he/she is good looking. Finally, the behavior or conduct subscale items tap the degree to which children like the way they behave, do the right things, are kind to others, act the way they are supposed to, and avoid getting into trouble or doing things they know they should not do. This scale is, therefore composed of six subscales with six items per subscale. Harter entitled this instrument the "Self-Perception Profile for Children," claiming that it is the best reflection of his/her perception of the self because it represents a child's "profile", i.e. scores across the various areas.

The child's task on each bipolar item (e.g. Some kids are kind of hard to like but other kids are really easy to like) is to first determine whether he/she is more similar to the children described by one or the other pole. Subsequently, the tester refers to that pole and asks him/her whether that statement is just "sort of true for him/her" or "really true for him/her". Items are scored either 4,3,2, or 1, where 4 represents the most adequate self-judgment and 1 represents the least adequate. Thus, a range of scores are elicited. According to Harter (1982) the effectiveness of this question format lies in the implication that half of the children see themselves in one way (i.e. positively) whereas the other half see themselves in the opposite way (i.e. negatively). Therefore, this format validates either choice. Items within each subscale are counterbalanced such that three items are worded with the most socially desirable sentence on the left and three items are worded with the most desirable statement on the right, thus minimizing item position bias. Harter (1982) reported a correlation of .09 of this scale with the Children's Social Desirability Scale (Crandall, Crandall,

& Katkousky, 1965) indicating that social desirability is not a contaminating factor.

Harter (1983) has reported that a sample of sixth and seventh grade children used the entire range of responses with item means slightly above 2.5, and no ceiling or floor effects. Factor analyses of the scale excluding the self-worth subscale, have resulted in a five factor solution with negligible cross-loadings (i.e. <.18). Although the method of computing subscale reliabilities was not specified, Harter (1983) reported them to range from .75 to .84 with a median of .80. Gender differences were found on four of the six subscales with boys reporting greater athletic competence, physical attractiveness and self-worth and girls perceiving their behavior as more appropriate than boys. The pattern of intercorrelations among the six subscales, for boys and girls combined, indicated that social acceptance, athletic competence, and physical appearance are moderately intercorrelated with correlations ranging from .38 to .44. A similar pattern of intercorrelations among these subscales resulted from separate gender and grade analyses. All five subscales correlate with the self-worth scale with correlations ranging from .44 for the athletic competence subscale to .64 for the physical appearance subscale. For purposes of this study, the scores on the five perceived acceptance and competence scales were added to form a composite score. (see individual items and recording form in Appendix D-2).

The "Pictorial Scale of Competence and Social Acceptance" (Harter & Pike, 1984), appropriate for use with kindergarten children, is based on the same assumptions as the "Self- Perception Profile for Children".

Four subscales are included, providing a profile of scores across the following areas: cognitive and physical competence, peer and maternal acceptance. Each subscale contains six items. The items are each depicted by a drawing of children of the subject's sex in various situations or involved in certain activities. The administration and scoring of this scale is similar to the previously described "Self-Perception Profile for Children".

Analyses of this scale have consistently yielded two factors: (a) perceived competence and (b) perceived social acceptance. Each of these factors is composed of two subscales. The first contains cognitive and physical competence items suggesting that young children do not make the distinction between cognitive and physical skills. The second factor comprises items from the peer and maternal acceptance subscales. This two factor structure indicates that young children differentiate between competence and acceptance. The more differentiated factor structure of the Self-Perception Profile compared with the Pictorial Scale of Competence and Social Acceptance strongly supports the contention that the self becomes more differentiated with age (Harter, 1983). As it concerns the discriminant validity of the pictorial scale, Harter and Pike (1984) reported that children who had been held back for one year had considerably lower cognitive competence scores than the average for their age group. In another study, Harter and Pike (1984) found that children with imaginary friends had low perceived peer acceptance. Harter and Pike (1984) reported acceptable internal consistency reliabilities ranging from .50 to .85 for the individual subscales and from .75 to .89 for combined subscales respectively for the "Pictorial

Scale of Competence and Social Acceptance". In a sample of 146 preschool and kindergarten children, they report item means ranging from 2.5 to 3.6 with standard deviations ranging from .60 to 1.12. These means indicate that young children tend to view themselves in a relatively positive manner, supporting Brown (1961). The standard deviations indicate that there is nevertheless considerable individual variability in self-evaluations. The pattern of intercorrelations among the subscales indicate a correlation between the cognitive and physical competence subscales of .43 and a correlation of .62 between the peer and maternal acceptance subscales. Given these moderate intercorrelations among the subscales, for purposes of this study the scores in the four subscales were combined (see item and data form in Appendix D-3).

Perceived Similarity Measure. The materials for this task included a 60 cm. piece of cardboard about 20 cms. wide, with length marked off in 1 cm. segments numbered 1-60. Also included were photographs of three White, three Black, and three Native Indian same-sex children. Two of the photographs within each ethnic group were of the subject's age; the third photograph was either one of the older child for the kindergarten children or one of the younger child for the third grade children so as to permit generalization of results across picture sets. Thus, there were four sets of photographs, one for each gender at each age. The photographs, were those selected from larger sets previously judged as similar in attractiveness by a panel of adult raters. A blank card with the name of the subject on it was used to represent the self. The photographs and the blank card were able to be stood up easily on the board. One picture of an apple, one picture of an orange, and one

picture of a horse were used for training purposes.

The tester placed the board horizontally on the table and the photographs in a semicircle with alternating photographs from each of the three ethnic groups (i.e. Caucasian, Black, Native Indian). The experimenter then said to the subject, "Here is my same-different board. You put two pictures closer together on this board the more similar or same they are, and farther away the more different they are". The tester then put out the training pictures (i.e. apple, orange, horse) and said, "Let us practice with these pictures first. Here is an apple and an orange. Put them on the board to show how same or different they are, closer together the more similar and farther apart the more different. What does that mean? How are they the same or different?". The tester after making sure that the description fitted the placement said, "Here is an apple and a horse". Put them on the board to show how same or different they are. What does that mean?". If the child used only extremes, even for the apple and orange sample item, the tester then said, " If I gave you pictures that were a bit different but not a lot different, you would put them this way. O.K.?". Once the child had made clear that he understood the nature of the task the experimenter then said, " Put these two people on the board closer the more similar they are and farther apart the more different" and proceeded to hand to the subject, in order, 18 pairs of pictures. In these pictures presented in a constant random order, two within group pairs were presented for each ethnic group, i.e. W_1W_2, W_1W_3, B_1B_2, B_1B_3, I_1I_2, I_1I_3; as well as six between group pairs, i.e. W_1B_1, W_2B_2, W_1I_1, W_2I_2, B_1I_1, B_2I_2; and finally, two self-owngroup pairs, i.e. W_1Self, W_2Self and four

self-othergroup pairs, i.e. B_1Self, B_2Self, I_1Self, I_2Self. The letters indicate W = White, B = Black, I = Native Indian, and the numerals indicate the specific photograph from the set of nine. The tester recorded the placement of each photograph on the board. The following scores were derived: (a) the mean distance between self and othergroup members as a measure of perceived self-other similarity, similar to Katz and Zalk (1978), (b) the mean distance between owngroup members as a measure of perceived within group similarity, and (c) the mean distance between members of different ethnic groups as a measure of between-group similarity (see data form in Appendix D-4).

Racial Attitudes Measure (PRAM II). In the present study an adaptation of the PRAM II series A (Williams, Best, Boswell, Mattson, and Graves, 1975b) was used. The rationale for the current measure and the PRAM II is based on Osgood, Suci, and Tannembaum's (1957) assumptions that the "semantic space" of racial attitudes encompasses an evaluative dimension. This dimension is conceptualized as defined at one end by a positive evaluation, or "goodness" and at the other end by a negative evaluation or "badness". Non-synonymous words are used to define the two ends of the dimension. The PRAM II was adapted to: (a) amplify the White-Black differences by redrawing the figures to vary both in skin color and hair texture as opposed to only skin color, (b) making a parallel form with Native Indian figures, (c) revising the items in series A to have equal numbers of male and female positive and negative items by substituting on Form A item 24 (i.e. male negative) and item 23 (i.e. female positive) from Form B in place of items 5 (i.e. male positive) and 6 (i.e. female negative). Finally, (d) to shorten the time

of administration only four sex-role filler items were used instead of the original six. For example, on the White-Black version the child is provided with 12 forced-choice opportunities to choose between a Caucasian and a Black person in response to the following 6 positive and 6 negative adjectives: kind, happy, nice, healthy, clean, wonderful, ugly, cruel, bad, sad, stupid, and selfish. In addition, 4 sex-role filler items are included. The adapted White-Black and White-Native Indian versions of the PRAM II were scored following Williams et al.'s (1975b) procedure, that is adding the number of positive attributions to owngroup and the number of negative attributions to othergroup (i.e Black/Native Indian) to form a quantitative measure of racial bias. Maximum score was 12, scores around 6 indicating no bias, and scores around 9 indicating bias (see items and stories in Appendix D-5).

No validity or reliability information is available on the current adapted measures, however, the PRAM II was standardized on a group of 272 preschoolers. No sex differences were found and the scores were independent of both chronological age and intelligence as assessed by the Peabody Picture Vocabulary Test (PPVT) (Dunn, 1965). Despite its name, the scale has often been used in elementary grades (e.g. Clark et al., 1980; Mabe & Williams, 1975; Williams et al., 1975). Mabe and Williams (1975) found that the PRAM II predicted sociometric choices among second grade children. This result supports the validity of the instrument as a method for assessing racial attitudes to Blacks. The PRAM II can be divided into two series (A and B) which provide alternate short forms of the procedure. The correlation between the two series was found to be .71 (Williams et al., 1975b) and, according to the authors, the virtually

identical means (A = 8.20; B = 8.24) and standard deviations (A = 2.74; B = 2.79), indicate that the two scales can be considered as equivalent 12 item short forms of the PRAM II.

Ethnic Boxes Task. This measure was a readaptation of Doyle et al.'s (1988) free-choice measure of ethnic attitudes. In contrast to the PRAM II, this is a free-choice measure of racial bias, i.e. the extent to which children make pro-owngroup (i.e. Caucasian) and anti-othergroup (i.e. Black, Native Indian) attributions and the extent to which they perceive all groups as sharing both "good" and "bad" attributes (i.e. flexibility of ethnic attitudes). The task requires the child to assign evaluative attributes to human figures representing Caucasian, Black, and Native Indian children. It consists of 24 adjectives, each depicted on three identical 8 x 8 cards and three boxes into which the adjective cards are to be sorted. The boxes are labeled as belonging to a Caucasian child, a Black child, and a Native Indian child and each is identified by a colored same-sex head silhouette of a child of the appropriate race. The three featureless drawings are identical except for skin color and hair texture. There are 10 positive adjectives: clean, wonderful, healthy, good, nice, happy, friendly, kind, helpful, and smart; 10 negative adjectives: unfriendly, mean, dirty, cruel, stupid, selfish, sick, naughty, sad, and bad; and four neutral, filler adjectives: likes to run, likes to sing, likes T.V., and likes music. The positive and negative adjectives were derived from the PRAM II measure (Williams et al., 1975b). Positive, negative, and neutral adjectives are intermixed through the task but their order of appearance is the same for all subjects. To ensure understanding of the task,

children were trained in the placement of (a) the nine ethnic photographs: 3 Caucasian, 3 Black, and 3 Native Indian children of the subject's gender, as described for the perceived similarity task, and (b) three identical colored T-shirts. For training the tester handed a set of three identical (e.g. Whites) pictures and asked, "Where do these pictures go, with the White child, the Black child, the Indian child, or more than one child". "Put these pictures where they belong". For the T-shirts, if the child failed to sort into more than one box he/she was instructed, " More than one kind of child wears a T-shirt ". "Where do these T-shirts go, with the White child, the Black child, the Indian child, or more than one child". "Put these T-shirts where they belong". Training on the T-shirts was continued until more than one box was used. Then children were asked to attribute the 24 sets of 3 exemplars of adjectives one by one, to the three boxes. The experimenter said, "Now I am going to tell you how some children are, and I want you to tell me if it is the White child, the Black child, the Indian child, or more than one who is like that". For each item the number of pictures placed in each box (i.e. Caucasian, Black, Native Indian) were recorded. Six ethnic bias scores were derived: the number of times a positive or negative item, irrespective of number of exemplars, was assigned to each group, Whites, Blacks, and Native Indians. For example, if a child assigned two exemplars of clean to Whites and one exemplar of clean to Native Indians, each ethnic group received a score of one for that item. In addition, to assess the degree to which children saw each ethnic group as sharing both positive and negative attributes a score was derived by assessing the number of boxes utilized for each item, range zero to

three. This score represents the number of ethnic groups to which the child attributed the exemplar simultaneously. This score was termed "flexibility of attributions" and it was treated as a cognitive variable measuring understanding of similarity between perceptually different groups (see, Appendix D-4).

Ethnic Preference (i.e. Liking) Measure. This is a Bogardus (1947) type social distance measure of preference. It consists of: (a) the three sets of 3 same-gender photographs of the three ethnic groups (i.e. Caucasian, Black, and Native Indian), two of the subject's age and one older or younger, for kindergarten and third grade children respectively, as described previously; and (b) a 60 cm. piece of cardboard about 20 cms. wide with length marked off in 1 cm. segments numbered 1-60. The tester placed the 9 photographs in a semicircle alternating according to race (i.e. Black, Caucasian, Native Indian) and then placed the board vertical to the child with the 60 cms. end closest and said, "This is my liking board. You put things on this board closer to you the more you like them and farther away the more you don't like them". The experimenter then had the child practice with a picture of a kitten, a dog, and a snake saying, " Place this kitten on the liking board to show me how much you like or don't like it". After placement, the experimenter said, "What does that mean?; how much do you like or not like kittens?". The tester made sure that the description fitted the placement; if not, she repeated the instructions, " The more you like it, the closer it goes to you, and the less you like it the farther away it goes. "Where do you put the kitten? Now the snake". If the child also liked snakes, the experimenter asked about another animal that they would

not like, e.g. mosquitoes, and said, " How much do you like or not like mosquitoes? Point to the place on the board". The tester then proceeded, " Now here are pictures of people. You put people on this board closer to you the more you like them and farther away the more you don't like them". The child then chooses the photos in whatever order and places them on the board, leaving the pictures on the board until all have been placed. The distance of each photograph from the subject was recorded. For purposes of this study, the following scores were derived: (a) mean distance of owngroup members, (b) mean distance of Blacks, (c) mean distance of Native Indians, and (d) mean distance to both Blacks and Native Indians (see Appendix D-4).

Procedure.

Each child participated in three sessions conducted by one of two White female experimenters. The sessions lasted for approximately 25 minutes each. In the third session children were always administered the Piagetian conservation tasks and either the "Self Perception Profile for Children" in the case of third grade children or the "Pictorial Scale of Competence and Social Acceptance" in the case of the kindergarten children. The order of administration of these two measures was counterbalanced within school, grade, and sex of subject. The rest of the measures of interest to this study (i.e. flexibility, perceived similarity, liking, and PRAM II), interspersed with five additional measures relevant to the larger project of which this study was a part, were administered in two sessions. The order of these sessions was also counterbalanced within school, grade, and gender. Moreover, within each session there were three different orders in which the five tasks

comprising each session were administered with the exception that an ethnic group recognition task was always administered first and a need for approval task was always administered last.

Results

The main analyses of the data were designed to assess age differences in ethnic bias and preference, the extent to which changes with age in ethnic bias and preference were a function of cognitive changes affecting the perception of ethnic group similarity, and finally, the relation between self-evaluations of competence-acceptance and ethnic attitudes and preferences. Multivariate analyses of variance were used to evaluate age differences in ethnic attitudes and preferences. The test of the hypothesis that changes with age in ethnic bias and preference may result from cognitive changes mediating the perception of similarity fits, conceptually, a confirmatory path analysis model. However, given the existent insufficient knowledge concerning the nature and the interrelations of the variables in the present study and the relatively small sample size, the use of a full path model analysis was precluded and the more exploratory multiple regression technique used to test this hypothesis. A reduced path model analysis including conservation, between group perceived similarity, and the total ethnic bias score toward Blacks and Native Indians as measured by the adapted PRAM II was also conducted. Finally, partial correlations were used to assess the relation of self-evaluations and ethnic attitude and preference scores.

Preliminary Analyses.

The first step in data analysis was to scrutinize the 32 dependent variables for both skewness and outlier values, separately by grade, since these can affect the least squares estimates and produce artifactually high correlations. Variables analyzed were:

(a) demographic (i.e. father-mother occupation and education, SES), (b) ethnic attitudes (i.e. attributions to Whites, Blacks, Native Indians; pro-White/anti-Black bias, pro-White/anti-Native Indian bias), (c) preference (i.e. liking of Whites, Blacks, Native Indians), (d) perceived similarity (i.e. within each ethnic group, between ethnic groups, between self and each of the three ethnic groups), (e) cognitive development (i.e. conservation, flexibility), and finally, (f) self-perceived competence and acceptance (i.e.scores on the "Self-Perception Profile" and "Pictorial Scale of Competence and Social Acceptance").

Of the 32 variables, four were significantly skewed for kindergarten children and seven were significantly skewed at third grade. Variables with significant skewness are presented in Appendix E-1. Since sample sizes were similar across grade and N's were greater than 20, results of analyses concerning these variables were considered to be valid (Tabachnick & Fidell, 1983; Winer, 1971).

Appendix E-2 shows the six variables with univariate outlier values ($z > 3.0$) and their frequency of occurrence. The maximum frequency per grade was 3.0, median 1.0. Outlier values were reduced to scores three standard deviations their group mean. A subsequent multivariate outlier analysis resulted in no significant values.

Effects of Estraneous Variables: School, Gender, Order of Task Presentation, and Experimenter.

School. Separate multivariate grade (2) by school (4) analyses of variance were used to assess school differences on each of four clusters of dependent variables: (a) ethnic attitudes (i.e. attributions to Whites, Blacks, Native Indians; pro-White/anti-Black bias,

Pro-White/anti-Native Indian bias), (b) preference (i.e. liking of Whites, Blacks, Native Indians), (c) perceived similarity (i.e. within each ethnic group, between ethnic groups, between self and each of the three ethnic groups), and (d) cognitive development (i.e. conservation, flexibility of attributions). In this and subsequent manova analyses, Pillai's trace criterion was used to evaluate the significance of the multivariate F (Tabachnick & Fidell, 1983). There were significant school effects on ethnic attitudes, F (9, 201) = 2.7, $p < .005$; and perceived similarity, F (12, 195) = 1.9, $p < .05$. School by grade interactions were non-significant. Variables with significant univariate F tests for school differences are presented in Appendix F. A posteriori pair-wise comparisons performed according to the Newman-Keuls procedure with $\alpha = .05$ indicated that children from school D were significantly less negative toward Blacks than children from schools A and B. Children from school C perceived significantly more similarity between Whites and Native Indians and between self and Whites than did children from school D.

A school by grade analysis of variance on SES indicated significant school differences, F (3, 67) = 7.3, $p < .001$. Post-hoc mean comparisons conducted by means of the Newman-Keuls statistic with $\alpha = .05$ revealed that children in school C were of lower SES than in the other three schools (see Table 1). A similar school by grade analysis of variance on age resulted in non-significant school effects. The interactions of school by grade on SES and age were non-significant.

One-way analyses of variance were conducted to evaluate school differences on the perceived self-competence and acceptance variables

(kindergarten and third grade were analyzed separately). No significant school differences on these variables were found for kindergarten children. For third graders, however, significant school differences were found on the "Self-Perception Profile" subscales assessing social acceptance, $F(3,36) = 4.2$, $p < .05$; and physical appearance, $F(3,36) = 4.4$, $p < .01$. Third grade children from school C perceived themselves more negatively on the social acceptance and appearance subscales of the "Self-Perception Profile" than did third graders from the other three schools (see Appendix F).

Thus, of the 31 variables analyzed, eight showed significant school differences, all involving schools C and D. Since few subjects attended schools C and D (i.e. 10 and 8 respectively), therefore increasing the likelihood of random sample variation, school was not retained as a factor for subsequent analyses.

Gender. Gender effects on the ethnic attitude, preference, perceived similarity, and cognitive development variables were assessed via gender by grade multivariate analyses of variance. The only multivariate effect of gender pertained to the variables assessing positive attitudes to owngroup and othergroups derived from the Ethnic Boxes task, $F(3,69) = 3.76$, $p < .05$. The univariate F's revealed significant gender effects in number of positive attributions to owngroup, $F(1,71) = 4.74$, $p < .05$, with females assigning on the average more positive attributions to Whites than males (9.4 vs. 8.5 respectively). There were no significant gender by grade interactions. In general, the results of these analyses support existing literature indicating that the development of both ethnic attitudes and conservation

skills is not affected by gender to any significant extent (Aboud & Skerry, 1984; Gulko et al., in press).

The five self-perceived competence and acceptance scores, i.e. scholastic, social, athletic, appearance, and conduct, and the self-worth score of the "Self-Perception Profile for Children" used with third graders were analyzed for possible gender differences by means of a multivariate analysis of variance. The results of these analyses indicated that there were no significant gender differences on the subscales of the "Self-Perception Profile for Children", multivariate F (6,33) = 1.33, $p > .05$. Similar multivariate analysis conducted on the four subscale scores, i.e. cognitive, peer, maternal, and physical scores, of the "Pictorial Scale of Competence and Social Acceptance" used with kindergarten children also revealed non-significant effects of gender, multivariate F (4,30) = .70, $p > .05$. On the basis of the results of these gender analyses, the data for males and females were combined for subsequent analyses.

Order of Task Presentation. The data on the ethnic attitude, preference, and perceived similarity variables were subjected to order (6) by grade (2) multivariate analyses of variance for purposes of assessing differences due to order of task presentation. Neither the order of task presentation nor any interactions with grade were significant.

Experimenter. Experimenter (2) effects on the ethnic attitude, preference, perceived similarity, and cognitive development variables were evaluated by grade by experimenter multivariate analyses of variance. Similar analyses, separately by grade, were performed on the

perceived competence and acceptance variables.

Multivariate effects of experimenter were found for the preference variables, F (3,30) = 3.8, $p < .05$. Inspection of the univariate F's indicated significant experimenter effects in liking of Whites, F (1,32) = 10.3, $p < .003$, with children expressing more liking of Whites with experimenter 1 than with experimenter 2 (129.3 vs. 90.5). Since experimenter 2 tested only one third of the subjects and in only two of the schools and since there were no school effects on these variables, experimenter was not retained as a factor for further analyses. However, it is possible that attitudes to Whites in this study may not be representative.

Reliability of New Measures of Ethnic Attitudes.

The internal consistencies of the two versions of the attitude measures (i.e. White-Black, White-Native Indian) derived from the adapted PRAM II measure of ethnic bias, and from the Ethnic Boxes task were assessed.

Adapted Racial Attitudes Measure (PRAM II, Form A). As previously noted in the description of this measure, scores represent the number of times a child chose the White person as the character to which the six positive stories referred and the Black or Native Indian as the character represented in the six negative stories. Estimates of internal consistency (Cronbach's alpha) of the White-Black and White-Native Indian versions of this scale are presented in Table 2. Reliability of the scores of kindergarten children was lower than of third grade children, .46 and .64 versus .77 and .77, but still adequate.

These lower reliability estimates appear to be due to the

Table 2

Cronbach Alpha Internal Consistency Reliabilities for the Adapted PRAM II

	Grade	
	Kindergarten (N = 34)	Third Grade (N = 40)
Scale		
Adapted PRAM II White-Black (Twelve Items)	.46	.77
Adapted PRAM II White-Indian (Twelve Items)	.64	.77

concentration of kindergarten children's scores at the upper range of the distribution, as shown in Table 3, entailing significantly smaller variability for kindergarten children than for third graders on both versions, F_{max} = 3.5 and 2.1 respectively, $p < .05$.

Ethnic Attitude and Flexibility of Attribution Measures from the Ethnic Boxes Task. This free-choice attitude measure was similar to the PRAM II in that the child attributed 10 positive and 10 negative adjectives to White, Black, and Native Indian characters. Since there were three exemplars of each adjective, it differed from the PRAM II in that the child was free to attribute a particular characteristic to more than one ethnic group. Six ethnic attitude scores, that is, positive attributions to Whites, Blacks, and Native Indians; negative attributions to Whites, Blacks, and Native Indians; and a score assessing flexibility of attributions were derived from this task according to the method described in the Measures section.

Table 4 presents the estimates of internal consistency (Cronbach's alpha) for the seven scores. Each of the scores showed high internal consistency for both kindergarten and third grade children, all indices being > .79. The means and standard deviations of the scores are presented in Table 5.

Analyses of Dependent Variables and Tests of Hypotheses.

To reduce variables within a cluster, prior to the analyses of the dependent variables correlations between them were computed and are presented in Table 6. It can be seen in Table 6 that SES did not correlate significantly with any of the variables. However, since ethnic attitudes and preference were expected to change with age, the

Table 3

Means and Standard Deviations for the Adapted PRAM II

	Grade			
	Kindergarten (N = 34)		Third Grade (N = 40)	
Scale	Mean	(S.D.)	Mean	(S.D.)
Adapted PRAM II White-Black (Twelve Items)	10.4	(1.5)	8.4	(2.9)
Adapted PRAM II White-Indian (Twelve Items)	9.5	(2.2)	8.0	(2.9)

Table 4

Internal Consistency Estimates of Ethnic Attitude and Flexibility of Attribution Scores from the Ethnic Boxes Task

	Grade	
	Kindergarten (N = 35)	Third Grade (N = 40)
Score		
Positive Attributions to Whites	.88	.83
Positive Attributions to Blacks	.91	.86
Positive Attributions to Native Indians	.88	.89
Negative Attributions to Whites	.91	.89
Negative Attributions to Blacks	.84	.84
Negative Attributions to Native Indians	.79	.80
Flexibility of Attributions	.96	.94

Note. Each score has a maximum of 10 excepting the Flexibility of attributions score which has a maximum of 60.

Table 5

Means and Standard Deviations of Ethnic Attitude and Preference Scores

	Grade			
	Kindergarten (N = 35)		Third Grade (N = 40)	
Score	Mean	(S.D.)	Mean	(S.D.)
Positive Attributions to Whites	8.2	(1.6)	8.1	(1.6)
Positive Attributions to Blacks	5.2	(3.4)	6.8	(2.7)
Positive Attributions to Native Indians	5.7	(3.1)	7.4	(2.5)
Negative Attributions to Whites	3.8	(3.4)	6.3	(2.9)
Negative Attributions to Blacks	6.4	(2.7)	7.3	(2.3)
Negative Attributions to Native Indians	6.3	(2.4)	6.7	(2.3)
Pro-White/anti-Black Bias (Ethnic Boxes Task)	14.6	(3.6)	15.4	(3.3)
Pro-White/anti-Native Indian Bias (Ethnic Boxes Task)	14.5	(3.5)	14.8	(3.5)
Pro-White/anti-Black Bias (PRAM II)	10.3	(1.5)	8.3	(2.8)
Pro-White/anti-Native Indian Bias (PRAM II)	9.5	(2.1)	8.0	(2.9)
Liking of Whites	113.5	(36.8)	119.5	(35.0)
Liking of Blacks	93.0	(39.5)	96.8	(35.4)
Liking of Native Indians	94.9	(36.2)	121.4	(30.5)

Table 6

Intercorrelations among SES, Ethnic Attitude, Preference, Cognitive, and Perceived Similarity Measures

Measures	2	3	4	5	6	7	8	9	10	11	12
1. SES	-.02	.14	.01	-.09	-.01	-.02	.12	.22^{+}	.09	-.02	.10
Ethnic Attitudes											
2. Pro-White/anti-Black Bias (Ethnic Boxes Task)		.66*	.15	.12	-.13	.02	.06	.64*	-.11	-.17	-.10
3. Pro-White/anti-Indian Bias (Ethnic Boxes Task)			.24^{+}	.23^{+}	-.17	-.20^{+}	.04	.58*	-.06	-.29^{+}	-.04
4. Pro-White/anti Black Bias (PRAM II)				.63*	-.33^{+}	.34*	-.39*	-.18	.09	-.01	.09
5. Pro-White/anti Indian Bias (PRAM II)					-.16	-.13	-.31^{+}	-.03	.09	.08	.09
Preference											
6. Liking of Blacks						.18	.14	-.01	-.06	.14	-.03
7. Liking of Native Indians							.29^{+}	.06	-.16	-.18	-.15
Cognitive											
8. Conservation								.22^{+}	-.33^{+}	-.25^{+}	-.33^{+}
9. Flexibility of Attributions									-.21^{+}	-.21^{+}	-.19^{+}
Perceived Similarity											
10. Self-Outgroups										.32^{+}	.84*
11. Within Groups											.38*
12. Between Groups											

[a] Using Bonferroni's family-wise error rate, significance of individual r's was set at α = .001.
df = 73 $^{+}$ $p < .05$ * $p < .001$

relationship of SES to these variables was further assessed within grade. The results of these analyses, presented in Table 7, were non-significant.

The relationship between SES and conservation skills was also evaluated within each grade since Gulko et al. (in press) reported that children of higher socio-economic-status showed accelerated mastery of conservation skills. The correlation between SES and conservation was non-significant, $\underline{r}$ (33) = .22, n.s. for kindergarten and for third grade children, $\underline{r}$ (38) = .02, n.s. Nor did SES vary across grade; for kindergarten and third grade children, $\bar{X}$ = 41.5, s.d. = 13.1, and $\bar{X}$ = 42.7, s.d. = 11.5 respectively. In view of these findings SES was not retained in subsequent analyses.

Perceived similarity of self to other ethnic groups correlated highly ($\underline{r}$ = .84) with perceived similarity between ethnic groups. Only perceived similarity between ethnic groups was retained, therefore, to facilitate comparison of the present findings with the literature. The correlation between the conservation and flexibility of attributions scores was, $\underline{r}$ (73) = .22, $\underline{p}$ > .05, suggesting that these two scores measure different areas of cognitive development.

The correlations between the ethnic attitude scores from the Ethnic Boxes task, preference, and within-and-between-ethnic-group perceived similarity are presented in Table 8.

One of the objectives of this study was to investigate patterns of development of ethnic attitudes in White children in light of cognitive developmental changes. Thus, the initial analyses of the data purported to establish age differences in both ethnic attitudes and cognitive

Table 7

Within Grade Correlations of SES with Ethnic Attitude and Preference Measures

Measures	Grade: Kindergarten (N = 34)	Grade: Third Grade (N = 40)
Ethnic Attitudes		
Pro-White/anti-Black bias (PRAM II)	-.04	.04
Pro-White/anti-Native Indian bias (PRAM II)	-.16	-.05
Pro-White/anti-Black bias (Ethnic Boxes task)	-.03	-.07
Pro-White/anti-Native Indian bias (Ethnic Boxes Task)	.16	.09
Preference		
Liking of Blacks	.05	-.09
Liking of Native Indians	-.13	.07

Table 8

Intercorrelations among Ethnic Attitude Scores from Ethnic Boxes Task, Preference, and Perceived Similarity Measures

Measures	2	3	4	5	6	7	8	9	10	11
Ethnic Attitudes										
1. Positive Attributions To Whites	-.009	.01	-.06	.38*	.47*	.002	-.17	-.12	-.13	.01
2. Positive Attributions To Blacks		.70*	.70*	.28^{+}	.42*	-.13	.24^{+}	.03	-.09	-.14
3. Positive Attributions To Native Indians			.73*	48*	.34^{+}	-.05	-.05	.08	-.09	-.22
4. Negative Attributions To Whites				.40*	.21	.003	.05	.25^{+}	-.08	-.19
5. Negative Attributions To Blacks					.33^{+}	-.007	-.07	.11	-.16	-.16
6. Negative Attributions To Native Indians						-.08	-.12	-.21	-.33^{+}	-.07
Preference										
7. Liking of Whites							.04	.31^{+}	-.06	-.18
8. Liking of Blacks								.18	.14	-.03
9. Liking of Native Indians									-.18	-.15
Perceived Similarity										
10. Within Groups										.38*
11. Between Groups										

[a] Using Bonferroni's family-wise error rate, significance of individual r's was set at α = .001. df = 73 $^{+}$ p < .05 * p < .001

development.

Development of Ethnic Attitudes. Separate multivariate analyses of variance were conducted by grade on the scores of the Ethnic Boxes task assessing positive attitudes to Whites, Blacks, and Native Indians, and on those scores representing negative attitudes to the same three ethnic groups. Although the correlations among some of these variables were significant, as seen in Table 8, all were analyzed because of the importance of establishing changes with age and the fact that the correlations were not sufficiently high to cause multicollinearity. The multivariate F's (3,71) were 2.5, $p < .06$ and 3.8, $p < .01$ for positive and negative attitudes respectively. Univariate F's were examined in an attempt to further understand the validity of this new free-choice measure. However, because the multivariate F for positive attitudes was not significant, caution is indicated in generalizing these findings until they are replicated as significant. The univariate F's indicated grade differences in number of positive attributions to Blacks, F (1,73) = 5.2, $p < .02$; and to Native Indians, F (1,73) = 7.0, $p < .009$ while no grade differences were found in number of positive attributions to Whites, F (1,73) = .11, $p > .05$. On the other hand, grade differences were found in number of negative attributions to Whites, F (1,73) = 11.70, $p < .001$, whereas the number of negative attributions to Blacks and Native Indians was similar in each grade, F's (1,73) = 2.12 and .47 respectively, n.s. .05. The means for these scores, presented in Table 5, indicate that positive attitudes toward other groups increase with age while positive attitudes to Whites do not change. However, negative attitudes to Whites increase with age whereas negative attitudes to other

groups do not change substantially. Thus, with increasing age children become more likely to hold both positive and negative attitudes to own and other ethnic groups. The major shift is an increase in both positive attitudes to other groups and negative attitudes to owngroup.

Summary scores were computed consisting of positive attributions to Whites plus negative attributions to Blacks and positive attributions to Whites plus negative attributions to Native Indians. These two scores provide indices of ethnic bias similar to the PRAM, therefore permitting direct comparison of the scales. A grade multivariate analysis of variance was conducted on these composite scores, on pro-White/anti-Black and pro-White/anti-Native Indian bias as assessed by the adapted PRAM II, and on liking for Whites, liking for Blacks, and liking for Native Indians as measured by the social distance (i.e. liking) scale. The multivariate effect of grade was significant, F (7, 66) = 4.0, $p < .001$. The univariate tests indicated significant grade differences in PRAM II pro-White/anti-Black bias, F (1,72) = 13.4, $p < .001$ and PRAM II pro-White/anti-Native Indian bias, F (1,72) = 5.9, $p < .05$; and liking of Native Indians, F (1,72) = 11.6, $p < .001$. Table 5 presents the means and standard deviations for these ethnic attitude and liking scores. The lack of grade differences on the ethnic bias scores of the free-choice Ethnic Boxes task was consistent with previous analyses indicating that positive attitudes to Whites and negative attitudes to Blacks and Native Indians did not change with age. Therefore, the age changes in pro-White/anti-Black and pro-White/anti-Native Indian bias obtained on the adapted PRAM appear to reflect the forced-choice manner in which ethnic bias is assessed by this scale. Specifically, from the

free-choice measure, it does not appear that positive attitudes to Whites or negative attitudes to Blacks and Native Indians decrease with age but rather that positive attitudes to Blacks and Native Indians and negative attitudes to Whites increase. Thus, on the forced-choice task, when older children increasingly assign a positive trait to a Black or Native Indian character, they are forced to do so at the expense of the White character. Similarly, when they assign a negative trait to a White character they do so at the expense of the Black or Native Indian character. The free-choice Ethnic Boxes tasks permits the noting of this.

On the social distance scale, the only significant change with age was liking for Native Indians, with third graders expressing more liking for this ethnic group than kindergarten children (121.4 vs. 94.9 respectively).

Analyses of Cognitive and Perceived Similarity Variables. A specific hypothesis of this study was that older children are more adept than younger children at using multiple dimensions when categorizing both physical and social stimuli. Thus, older children were expected to perceive more similarity between ethnic groups because of perceiving fewer less perceptual differences and more similarities in age, psychological attributes, etc.. Older children were also expected to perceive less similarity within ethnic groups, that is, while perceiving perceptual similarities they were expected also to infer differences, e.g. in activities and interests. To test these hypotheses, the cognitive (i.e. conservation, flexibility of attributions) and perceived similarity (i.e. within and between groups) scores were subjected to a

multivariate analyses of variance with grade as a between subjects factor. The multivariate effect of grade was significant, F (4, 69) = 36.3, $p < .001$, as were all four univariate grade differences, F's (1, 72) ranged from 7.2 to 125.5, $p < .01$. As the means for these variables indicate in Table 9, third graders had greater conservation and flexibility scores than kindergarten children. They also perceived greater similarity between and, contrary to the hypothesis, within ethnic groups than did kindergarten children. On the other hand, kindergarten children show significantly greater variability than third grade children on within-group perceived similarity, F (33,39) = 2.67, $p < .01$.

Relationship between Cognitive Development and Perceived Similarity. To assess the extent to which perceived similarity was a function of cognitive development, the conservation and flexibility of attributions scores were used to predict within group perceived similarity and between group perceived similarity scores. Although prior multivariate analyses indicated grade differences in these variables, grade was not entered as a factor in the regression analyses because of the high correlation with conservation, $r = .80$. These analyses yielded significant Multiple R values. Inspection of the T ratios testing the significance of the R^2 increase indicated that conservation scores accounted for a significant proportion of the variance in perceived similarity between groups ($sr^2 = .08$). The standardized regression coefficients (BETA) for conservation with between-group perceived similarity indicated that high conservation scores were related to high between-group perceived similarity (Beta = -.29, $p < .05$). With respect to perceived within group similarity, only the global regression equation was significant F (2,71)

Table 9

Means and Standard Deviations of Cognitive and Perceived Similarity Variables in Each Grade

Grade	N	Conservation	Flexibility of Attributions	Within Groups	Between Groups
K	34	6.1 (8.3)	39.8 (13.3)	20.1 (14.5)	36.3 (11.2)
3	40	23.3 (4.6)	47.5 (10.4)	10.8 (8.8)	29.0 (12.0)

Note. Standard deviations are given in parentheses.

= 3.5, $p < .04$). This result would appear to be due to the shared variance between conservation and flexibility of attributions, $r = .22$. Thus, it can be seen in Table 6 that conservation scores correlated significantly ($r = -.25$, $df = 73$, $p < .05$) with within group perceived similarity indicating that children with higher conservation scores perceived more within ethnic groups similarity. Table 10 presents a summary of these analyses.

To further assess the order of development of conservation and the perceived similarity variables, Guttman scalogram analyses were conducted. For purposes of these analyses, mastery of conservation was set at a behavior score of 6 or more. This score reflected mastery of the three tasks assessing the conservation of matter; that is substance, continuous quantity, and discontinuous quantity. These tasks have been found to be of similar difficulty while been more difficult than the number and area tasks and easier than volume (Gulko, et al., in press). Behavior scores only were used for these analyses to facilitate comparison of present findings with those of other researchers (e.g. Doyle et al., 1988) who have used the number of tasks passed as the criterion. Scores less than the median (i.e. 102) on between-group perceived similarity and less than the median (i.e. 41) on within-group perceived similarity were considered to indicate mastery of these tasks. It will be recalled that in these tasks, lower scores indicate greater perceived similarity. The results indicated that conservation mastery and between-group perceived similarity were related in a highly predictable order with conservation mastery preceding between-group perceived similarity, coefficient of reproducibility .91 and scalability

Table 10

Summary of Regression Analyses Predicting Perceived Similarity Scores from Cognitive Development Measures

Dependent Variable	Predictors	BETA	sr^2
Perceived Similarity Between Groups	Conservation	-.29*	.08
	Flexibility of Attributions	-.11	.01
		Multiple R = .35	
		R^2 = .12	
		F (2,71) = 4.9*	
Perceived Similarity Within Groups	Conservation	-.22	.04
	Flexibility of Attributions	-.16	.02
		Multiple R = .30	
		R^2 = .09	
		F (2,71) = 3.5*	

* $p < .05$, sr^2 = squared semi-partial correlation.

.76. Values of .9 for the coefficient of reproducibility are considered to be indicative of a valid scale while values of .6 and above for the coefficient of scalability indicate that the scale is unidimensional and cumulative (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). Only 14 of the 74 children were improperly classified. Results concerning the sequence of acquisition of conservation and within-group perceived similarity indicated that the values of conservation and within-group perceived similarity did not scale adequately, coefficient of reproducibility .78, coefficient of scalability .54. Thirty two out of the 74 children were improperly classified. These findings suggest overlap or concurrent development of conservation skills and within-group perceived similarity.

Relationship between Cognitive Development, Perceived Similarity, and Ethnic Attitudes. Multiple regressions were conducted to assess the contribution of the cognitive (conservation, flexibility of attributions) and perceived similarity (between-and-within-group) variables to the prediction of the ethnic attitudes (pro-White/anti-Black and pro-White/anti-Native Indian bias as measured by the adapted PRAM II) and preference (liking of Blacks, and liking of Native Indians) variables. Similar analyses were used in the prediction of the ethnic attitude measures derived from the Ethnic Boxes task. Since previous multivariate analyses of variance had indicated that there were grade differences in the predictor and various dependent variables, grade was entered first in these hierarchical regression analyses, followed by the cognitive (i.e. flexibility of attributions), perceived similarity variables, and finally the interactions of grade with the cognitive and perceived

similarity variables. In these exploratory analyses, conservation scores were not entered because of the high correlation of this variable with grade, r = .80. In addition, flexibility of attributions was not used as a predictor of the ethnic attitudes measures derived from the Ethnic Boxes task because of high intercorrelations among these variables (see Table 6). These analyses therefore allowed determination of whether grade influenced the dependent variables or whether grade interacted with the cognitive and perceived similarity predictors in determining the dependent variables. They also permitted evaluation of the contribution of the set of predictors to dependent variable performance after removing the effects of grade. When interactions were found, the data on those variables for kindergarten and third grade children were analyzed separately. Conservation scores were added as a predictor in the regression analyses conducted within a grade. Table 11 presents summary statistics for the regression analyses with significant interactions and/or significant predictors. Summary statistics for the non-significant regression analyses are presented in Appendix G. It can be seen in Table 11 that there were significant interactions with grade on positive and negative attitudes to Blacks and negative attitudes to Native Indians, as assessed by the Ethnic Boxes tasks, and on PRAM II pro-White/anti Native Indian bias. Therefore, multiple regression analyses of these ethnic attitudes scores on the cognitive and perceived similarity variables were conducted separately by grade. Tables 12 and 13 present the summary statistics for regression analyses involving interactions for kindergarten and third grade children respectively.

For kindergarten children, the results of the regressions, presented

Table 11

Summary of Regression Analyses with Significant Predictors/Interactions of Ethnic Attitude and Preference from Cognitive and Perceived Similarity Variables

Dependent Measures	Predictors	BETA	sr^2
Pro-White/anti-Native Indian bias (PRAM II)	Grade	.78	.02
	Flexibility of Attributions	.79	.05
	Perceived Similarity Between Groups	.17	.002
	Perceived Similarity Within Groups	-.19	.002
	Grade X Flexibility of Attributions	-1.43*	.05
	Grade X Perceived Similarity Between Groups	-.28	.003
	Grade X Perceived Similarity Within Groups	.24	.005
		Multiple R = .37	
		R^2 = .14	
		F (7,66) = 1.5 n.s.	

Table 11 (cont'd)

Summary of Regression Analyses with Significant Predictors/Interactions of Ethnic Attitude and Preference from Cognitive and Perceived Similarity Variables

Dependent Measures	Predictors	BETA	sr^2
Positive Attributions To Blacks	Grade	.65	.04
	Perceived Similarity Between Groups	.68	.03
	Perceived Similarity Within Groups	-.70	.04
	Grade X Perceived Similarity Between Groups	-.95*	.05
	Grade X Perceived Similarity Within Groups	.75*	.05
		Multiple R = .39	
		R^2 = .15	
		F (5,68) = 2.47*	
Negative Attributions To Blacks	Grade	-.03	.009
	Perceived Similarity Between Groups	.07	.0004
	Perceived Similarity Within Groups	-.87*	.06
	Grade X Perceived Similarity Between Groups	.27	.003

Table 11 (cont'd)

Summary of Regression Analyses with Significant Predictors/Interactions of Ethnic Attitudes and Preference from Cognitive and Perceived Similarity Variables

Dependent Measures	Predictors	BETA	sr^2
	Grade X Perceived Similarity Within Groups	.80*	.06
		Multiple R = .33	
		R^2 = .10	
		F (5,68) = 1.64 n.s.	
Negative Attributions To Native Indians	Grade	.44	.02
	Perceived Similarity Between Groups	.83*	.05
	Perceived Similarity Within Groups	-.89*	.07
	Grade X Perceived Similarity Between Groups	-.94*	.05
	Grade X Perceived Similarity Within Groups	.54	.02
		Multiple R = .42	
		R^2 = .17	
		F (5,68) = 2.89*	

* $p < .05$

Table 12

Summary of Regression Analyses Predicting Ethnic Attitude and Preference from Cognitive and Perceived Similarity Measures for Kindergarten Children

Dependent Variables	Predictors	BETA	sr^2
Pro-White/anti-Native Indian bias (PRAM II)	Conservation	-.03	.0009
	Flexibility of Attributions	.35	.11
	Perceived Similarity Between Groups	.01	.0001
	Perceived Similarity Within Groups	.004	.0001
		Multiple R = .36	
		R^2 = .13	
		F (4,29) = 1.05 n.s.	
Positive Attributions To Blacks	Conservation	-.002	.0001
	Perceived Similarity Between Groups	.14	.0169
	Perceived Similarity Within Groups	-.13	.0144
		Multiple R = .17	
		R^2 = .02	
		F (3,30) = .29 n.s.	

Table 12 (cont'd)

Summary of Regression Analyses Predicting Ethnic Attitude and Preference from Cognitive and Perceived Similarity Measures for Kindergarten Children

Dependent Variables	Predictors	BETA	sr^2
Negative Attributions To Blacks	Conservation	-.31	.09
	Perceived Similarity Between Groups	-.13	.02
	Perceived Similarity Within Groups	-.21	.04
		Multiple R = .41	
		R^2 = .17	
		F (3,30) = 2.08 n.s.	
Negative Attributions To Native Indians	Conservation	-.14	.02
	Perceived Similarity Between Groups	.24	.05
	Perceived Similarity Within Groups	-.50**	.23
		Multiple R = .56	
		R^2 = .31	
		F (3,30) = 4.59**	

** $P < .01$

Table 13

Summary of Regression Analyses Predicting Ethnic Attitude and Preference from Cognitive and Perceived Similarity Measures for Third Grade Children

Dependent Variables	Predictors	BETA	sr^2
Pro-White/anti-Native Indian bias (PRAM II)	Conservation	-.25	.06
	Flexibility of Attributions	-.15	.01
	Perceived Similarity Between Groups	.12	.008
	Perceived Similarity Within Ethnic Groups	.09	.006
		Multiple R = .31	
		R^2= .10	
		F (4,35) = .93 n.s.	
Positive Attributions To Blacks	Conservation	.17	.03
	Perceived Similarity Between Groups	-.40*	.12
	Perceived Similarity Within Groups	.38*	.11
		Multiple R = .44	
		R^2 = .20	
		F (3,36) = 2.95*	

Table 13 (Cont'd)

Summary of Regression Analyses Predicting Ethnic Attitude and Preference from Cognitive and Perceived Similarity Measures for Third Grade Children

Dependent Variables	Predictors	BETA	sr^2
Negative Attributions To Blacks	Conservation	.22	.05
	Perceived Similarity Between Groups	-.22	.04
	Perceived Similarity Within Groups	.29	.07
		Multiple R = .35	
		R^2 = .12	
		F (3,36) = 1.72 n.s.	
Negative Attributions To Native Indians	Conservation	.23	.05
	Perceived Similarity Between Groups	-.18	.02
	Perceived Similarity Within Groups	-.03	.0001
		Multiple R = .32	
		R^2 = .10	
		F (3,36) = 1.39 n.s.	

* $P < .05$

in Table 12, indicated that within-group perceived similarity accounted for a significant proportion of the variance in negative attitudes toward Native Indians as derived from the Ethnic Boxes task (sr^2 = .23). The standardized regression coefficient, BETA = -.50 indicated that high within group perceived similarity is a predictor of negative attitudes toward Native Indians. The other measures, i.e. conservation and betweengroups perceived similarity, were not significant.

In the case of third grade children, the regression equation of conservation and perceived similarity measures on the variable assessing positive attributions to Blacks (Ethnic Boxes task) was significant. The T-ratios indicated that both perceived similarity within ethnic groups and perceived similarity between ethnic groups made a significant contribution to the prediction of positive attributions to Blacks (sr^2 = .10 and .12 respectively). Examination of the standardized regression coefficients for these measures indicated that third graders who perceived more within group differences and between group similarities also expressed a greater number of positive attributions to Blacks (BETA's were .38 and -.40 respectively). A summary of these regression analyses is presented in Table 13.

Relationship between Conservation, Perceived Similarity Between Ethnic Groups, and Ethnic Bias toward Blacks and Native Indians.

To evaluate the extent to which changes with age in ethnic bias toward Blacks and Native Indians, as assessed by the PRAM II, were a function of cognitive changes affecting the perception of between ethnic group similarity a path model analysis was performed. Bias scores toward Blacks and Native Indians on the PRAM II were added, on the basis of

their moderate correlation, to create a single score for purposes of this analysis. A single three stage recursive path analysis using least squares multiple regression was conducted for the three variables representing conservation, between ethnic group perceived similarity, and PRAM II ethnic bias toward Blacks and Native Indians. The ethnic bias score was regressed on between ethnic groups perceived similarity and conservation scores. This was followed by the regression of between ethnic groups perceived similarity on conservation. This allowed for the determination of path coefficients which provided the data for the calculation of direct and indirect effects (see Pedhazur & Elazar, 1983). The results of this analysis indicated that perceived similarity had only a small non-significant direct effect on the score assessing ethnic bias toward Blacks and Native Indians, path coefficient = -.02. However, the indirect effect of perceived similarity between groups on the ethnic bias score acting through its relationship with conservation was significant, path coefficient = -.13, $p < .05$. In addition, conservation scores were found to have a direct effect on ethnic bias toward Blacks and Native Indians, path coefficient = -.39, $p < .001$. Thus, the results of this analysis provide evidence for the validity of the hypothesis that between ethnic groups perceived similarity mediates, through its relation with conservation skills, the prediction of ethnic bias.

Relationship between Perceived-Competence-and-Acceptance and Ethnic Attitudes. Both the intercorrelations among the subscales of the "Self-Perception Profile for Children" and the subscales of the "Pictorial Scale of Competence and Social Acceptance" were obtained for purposes of

examining the adequacy of creating composite scores. The correlation matrices for these scales are presented in Tables 14 and 15. It can be seen in Tables 14 and 15 that the subscales of both instruments were moderately intercorrelated. Therefore, to achieve better predictability the subscales were combined.

For third grade children, the scores of the scholastic, social, athletic, appearance, and conduct subscales were added together to create a composite measure of perceived-competence-and-acceptance. The score on the third grade self-worth subscale was used separately as an index of self-esteem. The intercorrelations between perceived-competence-and-acceptance, self-worth, and ethnic attitude, preference, cognitive, and perceived similarity measures for third grade children are presented in Table 16. For kindergarten children the scores of the subscales (i.e. cognitive, peer, physical, maternal) assessing self-perceived competence and acceptance were added to create a composite score. Table 17 presents the intercorrelations of this composite score with the ethnic attitude, preference, cognitive, and perceived similarity variables.

The relationship between perceived competence-acceptance and ethnic attitudes and preferences was studied by means of partial correlations. Partial correlations were used since the object of this test was the evaluation of the relation of perceived competence-acceptance and self-esteem for third graders to ethnic attitudes and preferences regardless of cognitive and perceived similarity factors. For third graders, the correlations of the composite perceived self-acceptance and competence score and the self-worth score with the ethnic attitudes and preference measures, i.e. pro-White/anti-Black, pro-White/ anti-Native Indian bias

Table 14

Intercorrelations Among Subscales of the "Self-Perception Profile for Children" for Third Graders

Subscales	2	3	4	5	6
1. Scholastic	.38	.59	.34	.27	.16
2. Social		.29	.37	.21	.44
3. Athletic			.24	.29	.20
4. Appearance				.38	.45
5. Conduct					.47
6. Self-Worth					

Table 15

Intercorrelations Among Subscales of the "Pictorial Scale of Competence and Social Acceptance" for Kindergarten Children

Subscales	2	3	4
1. Cognitive	.53	.68	.59
2. Peer		.56	.50
3. Physical			.69
4. Maternal			

Table 16

Correlations of Perceived-Self-Competence-and-Acceptance, and Self-Worth, with Ethnic Attitude, Preference, Cognitive, and Perceived Similarity Measures for Third Grade Children

Measures	Perceived-Self-Competence-and Acceptance	Self-Worth
Perceived-Self-Competence-and-Acceptance		
Self-Worth	.48*	
Ethnic Attitudes		
Pro-White/anti-Black bias (Ethnic Boxes Task)	-.02	.24
Pro-White/anti-Native Indian bias (Ethnic Boxes Task)	.11	.27+
Pro-White/anti-Black bias (PRAM II)	.17	.27+
Pro-White/anti-Native Indian bias (PRAM II)	.16	.24
Preference		
Liking of Blacks	.16	-.10
Liking of Native Indians	-.06	.01
Cognitive		
Conservation	.04	.21
Flexibility of Attributions	-.34+	-.05
Perceived Similarity		
Within-Groups	-.10	.09
Between-Groups	.11	.17

[a] Using Bonferroni's family-wise error rate, significance of individual r's was set at α = .002.
df = 38 + p < .05 * p < .002

Table 17

Correlations of Perceived-Self-Competence-and-Acceptance with Ethnic Attitude, Preference, Cognitive, and Perceived Similarity Measures for Kindergarten Children

Measures	Perceived-Self-Competence-and-Acceptance
Perceived-Self-Competence-and-Acceptance	
Ethnic Attitudes	
Pro-White/anti-Black bias (Ethnic Boxes Task)	-.10
Pro-White/anti-Native Indian bias (Ethnic Boxes Task)	.15
Pro-White/anti-Black bias (PRAM II)	.05
Pro-White/anti-Native Indian Bias (PRAM II)	.02
Preference	
Liking of Blacks	-.28
Liking of Native Indians	-.25
Cognitive	
Conservation	-.42[+]
Flexibility of Attributions	.09
Perceived Similarity	
Within-Groups	-.03
Between-Groups	.45*

[a] Using Bonferroni's family-wise error rate, significance of individual r's was set at $\alpha = .005$.
df = 32 [+] $p < .05$ [*] $p = .005$

as evaluated by the adapted PRAM II and Ethnic Boxes instruments, liking of Blacks, and liking of Native Indians, were calculated controlling for cognitive skills and perceived similarity variables. The results of these partial correlation analyses indicated that perceived self-worth was significantly and positively related both to pro-White/anti-Black and to pro-White/anti-Native Indian bias as measured by the adapted PRAM II, partial r (35) = .33 and .33 respectively, $p < .02$. That is, contrary to hypothesis, third graders who had higher self-esteem were more prejudiced.

In the case of the kindergarten children none of the correlations of perceived self-competence-acceptance with the ethnic attitudes measures controlling for cognitive skills and both within and between ethnic groups perceived similarity were significant.

Discussion

The purposes of the present investigation were threefold: to confirm the occurrence of an age-related decline in White children's ethnic bias and concomitant increase in liking of other ethnic groups; to ascertain the extent to which this decline could be explained by cognitive changes, in particular through their effects on perceived similarity; and finally, to study the relationship between self-evaluations of competence-acceptance and ethnic attitudes.

With respect to the first aim, the results can be understood better when discussed in the context of the measures used. Thus, older children were observed to be less biased than younger children toward Blacks and Native Indians on the forced-choice measure of ethnic attitudes, PRAM II. These findings are consistent with the literature indicating a decline with age in ethnic bias (Aboud & Skerry, 1984; George & Hoppe, 1979; Williams et al., 1975). Age differences in ethnic attitudes were also found on the free-choice measure. Older children differed from younger children in that they attributed more negative characteristics to the owngroup and more positive characteristics to Blacks and Native Indians. Attributions of positive traits to the owngroup and negative traits to Blacks and Native Indians did not differ on this measure for kindergarten and third grade children. Therefore, when a bias score comparable to that of the PRAM II was calculated from the free-choice measure similar age differences in bias were not found. The difference can be best explained by the fact that age changes are in positive attributions to othergroups and negative attributions to owngroup. On the forced-choice measure when older children increasingly attribute a

positive choice to a Black or Native Indian character, they are forced to take it away from the White character. This affects the positive score to owngroup. Similarly a negative attribution to Whites takes it away from Blacks or Native Indians, thus affecting the negative othergroup score. As children become more adept with age at conceptualization along more than one dimension it is as if they try to compensate by adding traits to ethnic groups without subtracting from the other. This indicates that groups are seen as more multidimensionally, that is, as having both positive and negative characteristics.

In sum, the results of this study concerning age changes in ethnic attitudes indicate that the changes reflected increases in the view that different ethnic groups shared both more positive and negative traits rather than decreases in negative views of other ethnic groups. Accordingly, these findings question the validity of the ethnic bias construct as it is presently understood. That is, polarization of attributions, positive to owngroup and negative to othergroups appears to be a short-lived phenomenon. Doyle et al. (1988) found similar results in a study of ethnolinguistic attitudes. These authors suggested that "with age perceived similarity seems to replace ethnic bias". The consistency of these findings as it pertains to different aspects of ethnicity (i.e. language, race) indicates the pervasiness of a construct that may be best conceptualized as "degree of psychological similarity". The findings observed in the present study also serve to highlight the incompleteness of forced-choice measures of ethnic attitudes and lend support to Aboud and Skerry's (1984) suggestion that the forced-choice format may be more appropriate for tests of recognition and

identification. In these tests the forced-choice format assures a response from the child. However, the response does not require an evaluation of different ethnic groups.

The results from the social distance scale assessing liking of Blacks and Native Indians indicated that older children expressed more liking than younger children for Native Indians whereas expressed liking of Blacks did not differ. This lack of correspondence between attitudes toward and liking of Blacks was somewhat surprising, in particular in light of the correspondence between attitudes and liking observed with respect to Native Indians. This discrepancy may be best explained both in terms of the measures as well as by the characteristics of these two ethnic groups. The low correlations between the indices of attitudes and liking indicate the multidimensional character of ethnic bias. The measures of attitudes and liking used in this study differed in terms of the characteristics of the stimuli. The former consisted of drawings while the latter consisted of photographs. In addition, there is the possibility that attitude and liking measures may differ in terms of ego involvement. Thus, it may be one thing to say that someone is "good" for example, and a very different thing to say " I like...". Accordingly, it may be speculated that aspects of ethnic bias entailing a greater degree of ego involvement may be more stable across age since change may be more threatening to self-organization. Concerning the characteristics of the two ethnic groups, Native Indians are more similar to Whites in perceptual features than Blacks. In fact, in the present study children perceived more similarity between Whites and Native Indians than between Whites and Blacks. On the other hand, Black-White differences have been

found to become less salient for White children only by age 12 (Katz et al., 1975). Perceptual differences between the three ethnic groups were more discernible on the photographs used for the liking and perceived similarity measures than on the drawings used for the ethnic attitudes measures. Therefore, it is possible that the salience of Black-White differences, accentuated by the photographs, together with greater degree of ego involvement in the liking task than in the attribution tasks may account for the failure to find age differences in liking of Blacks as noted in this study. Research that uses the same stimuli to assess ethnic attitudes and liking is needed to ascertain the different patterns with age of attitudes toward and liking of Blacks and Native Indians observed in this study.

As a whole, the results of this investigation concerning age differences in ethnic attitudes and liking point to the complexity of this aspect of social relations and caution researchers to the possibility, suggested by Katz et al. (1975), that developmental trends obtained in earlier investigations may be better understood in terms of the measures and not the children.

Consistent with a large body of research (e.g. Gulko et al., in press), older children had higher conservation skills than younger children. They also showed higher scores on flexibility of ethnic attitudes. The latter result indicated that older children distributed their attributions more widely across ethnic groups, that is, they assigned more positive attributions to othergroups and more negative attributions to owngroup. Both the conservation and the flexibility of attributions tasks involve the ability to use multiple criteria

simultaneously when making similarity judgments, in one case of physical stimuli and in the other case of social stimuli. The age differences in flexibility of attributions observed in this study suggest that by age 8-9 children not only can think of different valence emotions as being characteristics of the self (Damon & Hart, 1986) but also that they can conceive of different valence attributes as being characteristics of others. Thus, with respect to ethnicity the ability to use multiple criteria of classification simultaneously appears to lead both to more perceived similarity and more differentiation. That is, older children are more able to understand that individuals from different groups may possess the same characteristics while individuals from the same group may possess different characteristics.

With respect to perceived similarity, as expected, older children perceived the three ethnic groups as being more similar than younger children did. Contrary to expectations, however, older children also perceived greater within-ethnic-group similarity. This latter finding is at odds with Katz's (1973a) observation that perception of within-group similarity peaks around age 3 to 4. This discrepancy may be due to methodological differences between Katz's and the present study. Thus, Katz used as stimuli pairs of face drawings cut from various shades of green, brown, or pink-flesh art paper; photographs of children were used in the present study. Moreover, children in Katz's study had to learn to discriminate the shade that was reinforced while in the present study they indicated the degree of perceived similarity between same or other race pairs of photographs. Judgments of perceived similarity were also used by Katz et al. (1975), who also found a decrease with age in

within-group perceived similarity. These authors used as stimuli both drawings and photographs which systematically varied along a number of dimensions, including color, shade, facial expression, and type of hair. The data were not analyzed separately. Therefore, it is possible that again methodological differences between Katz et al.'s study and the present may be responsible for the different findings concerning within-group perceived similarity. As previously discussed, photographs highlight ethnic similarity-dissimilarity to a greater extent than do drawings. Furthermore, the differences within same ethnicity stimuli were salient in Katz et al.'s study. This may have resulted in a diversion from ethnicity to other features when making the similarity judgments and, thus account for the greater within group similarity observed by these authors relative to the present study.

A possible explanation for the results of the present study regarding within group perceived similarity may be that children continue to use perceptual features when making within-ethnic-group judgments of similarity but they shift to other characteristics (i.e. internal-psychological) when judging the similarity between social stimuli differing in ethnicity. Perhaps the demands of the task induce this type of differential focus. To illustrate, perceptual features are salient and readily available so the child called to make a judgment of similarity between same ethnicity pairs of photographs, uses the readily available category highlighted in this study, that is ethnic similarity. However, in the case of stimuli differing in ethnicity, using the salient perceptual dimension would lead to a judgment of dissimilarity. Older children, however, with higher conservation skills and the capacity to

infer psychological characteristics, understand that perceptual dissimilarity can mask similarity. They may, therefore, bypass the salient perceptual dimension and make a judgment of similarity based on other dimensions. In this study higher conservation scores were found to be predictive of higher between-group perceived similarity and, in addition, the two abilities were found to be sequential in development. The attainment of conservation skills preceded high between-group perceived similarity. If this explanation is to account for the observed age-related findings in within-group and between-group perceived similarity it is necessary to further postulate that younger children of kindergarten age do not use perceptual dimensions consistently and furthermore that internal dimensions are not readily available. The greater variability observed in the younger children in their within-group perceived similarity scores and on the conservation task scores, which also requires a judgment of perceptual similarity, lend support to the former aspect of this interpretation. Aboud and Skerry's (1983) findings concerning self-conceptualizations indicated that kindergarten children use mostly external attributes when describing themselves.

An alternative and, perhaps, more parsimonious explanation of the findings of this study concerning the increase with age in within-group perceived similarity is that older children also used their greater capacity to utilize multiple dimensions in their within-group similarity judgments. That is, the photographs used as stimuli in this study were similar in ethnic features, age, sex, etc., and therefore, older children may have taken all these dimensions into consideration in their judgments while the younger children may have used only the ethnic similarity

dimension. It would be interesting to assess the basis of the children's similarity responses by using a paradigm in which children are questioned after each judgement of similarity.

With respect to the hypothesized relationship between cognitive development, perceived similarity, and ethnic attitudes, the findings of the regression analyses did not show a consistent pattern. For the total sample, none of the cognitive and perceived similarity variables were found to be predictive of ethnic attitudes and preferences. Although conservation scores were not found to be predictive of either attitudes or liking, they were indicative of perceived similarity between ethnic groups which in turn predicted positive attitudes to Blacks in third grade children. Semaj (1980) found othergroup attitudes to become more positive following mastery of ethnic identity constancy which in turn was positively related to conservation skills. Clark et al. (1980) found that children's understanding of skin color causality was preceded by an understanding of physical conservation. The understanding of racial causality was negatively related to ethnic bias. Together, the results of the present study and the research of Semaj and Clark and her colleagues suggest that conservation skill may be a mediator variable in ethnic attitude development.

The interactions of grade with the perceived similarity variables indicated the existence of differential patterns with age. Thus, it was found that in kindergarten children high within-group perceived similarity was predictive of more negative attitudes toward Native Indians. For third graders, both within-group and between-group perceived similarity predicted attitudes toward Blacks on the free-choice

measure. Specifically, lower within-group perceived similarity and higher between-group perceived similarity were predictive of more positive attitudes toward Blacks on this measure. Thus, the within-age comparisons indicated that within-group perceived similarity is related to negative attitudes whereas between-group perceived similarity is indicative of positive attitudes. It is puzzling, however, that although third graders perceived more within-group similarity than kindergarten children, for them it was not indicative of negative attitudes toward other ethnic groups. However, negative attributions to Blacks and Native Indians did not differ for kindergarten and third grade children. Thus, it may be that there is a level of perceived within-group similarity that is conducive to negative attitudes. With respect to liking, contrary to expectations, neither within-group nor between-group perceived similarity were found to predict liking for either Native Indians or Blacks. Nevertheless, the results of the partial path analysis indicated that between ethnic groups perceived similarity by its relation with conservation skills is predictive of PRAM II ethnic bias toward Blacks and Native Indians. This suggests that the study, on a larger sample, of the hypothesis that perceived similarity between ethnic groups mediates ethnic attitudes and liking may, undoubtly, contribute to our understanding of the course of ethnic attitudes and preferences in childhood. In sum, the results of this study concerning the relationship between cognitive development, perceived similarity, and ethnic attitudes and preferences were not consistent across attitude measures and groups. Therefore these findings can only be considered to be suggestive. They await further research to verify them and to clarify the determinants.

Most research in the ethnic attitudes area has been conducted with White children in the United States and used Blacks as the othergroup. The present research draws attention to the need to study the construct in other populations as well as in ethnic groups other than Blacks. Moreover, the study of these relationships in longitudinal studies may prove highly fruitful. Future studies should include a variety of measures of attitude and preference since the differential findings obtained in this study and the low intercorrelations among the measures suggest that they tap different aspects of ethnic attitudes.

Finally, it has been hypothesized that positive evaluation and liking of similar others may result from the need to evaluate competencies by social comparison (Byrne & Clore, 1967; Duck, 1976; Festinger, 1954) so as to enhance or maintain self-esteem (Martin & Halverson, 1981; Tajfel, 1982). In this study, it was assumed that greater need for effectance would be inversely related to self-perceived competence and acceptance. It was expected, therefore, that children with higher self-perceived competence and acceptance would show more positive attitudes and preferences to othergroup members. The results indicated that, in the two age groups investigated in this study, attitudes toward or liking of Blacks and Native Indians were not related to perceived self-competence and acceptance. Moreover, older children who were more prejudiced toward Blacks and Native Indians on the forced-choice measure of ethnic attitudes were found to have higher self-esteem. These findings are contrary to previous reports of either no relation (Katz et al., 1975) or positive associations between self-esteem and positive attitudes toward othergroups (Ehrlich, 1973; Stephan &

Rosenfield, 1978). It is interesting, however, that the relation between self-esteem and ethnic attitudes was specific to the forced-choice measure. As noted previously, on this measure expressing positive attitudes to othergroup members entails having to express negative attitudes to owngroup members. The ensuing conflict may result in cognitive dissonance (Festinger, 1954) which the child resolves by making a decision which is consistent with his/her high appraisal of himself/herself. That is, children act to preserve self-esteem through preserving group positiveness. Thus, the results of this study concerning the relation between ethnic attitudes and self-esteem support Martin and Halverson's (1981) and Tajfel's (1982) hypotheses. However, no relationship between self-esteem and ethnic attitudes and liking of othergroup members was observed on the potentially less conflictual Ethnic Boxes and social distance tasks. In these tasks, assigning a positive attribute to or expressing liking for othergroup members is independent of expressions of attitudes toward or liking of owngroup members. Therefore, it would appear that preservation of self-esteem may be the underlying factor of the observed relationship between self-esteem and ethnic attitudes. Consistent with this interpretation, Goldstein and Rosenfeld (1969) found that individuals prefer similar others when the characteristics of the situation or those of the others are perceived as threatening to the self. Nevertheless, in view of the novelty of some of the measures used in this study, i.e. PRAM's adaptation and Ethnic Boxes task, these results should be replicated before any firm conclusions are drawn.

Finally, the lack of association between socio-economic-status and

ethnic attitudes and liking is contrary to previous reports with children in the United States (Porter, 1971). They are congruent, however, with studies of Canadian children. For example, Kalin (1979) did not find a relationship between socio-economic-status and ethnic attitudes in children although he did for the adults in his sample. He interpreted this finding as suggesting either that social background variables have not yet been able to permeate children's ethnic attitudes or that social status does not organize the lives of young children in the same manner as it appears to organize the life of adults. In the present study, a specific hypothesis concerning SES and ethnic attitudes and preferences was not postulated. However, since children of higher SES have been found to show an accelerated mastery of conservation skills (Gulko et al., in press), a positive relation between SES and ethnic attitudes toward and preferences for othergroup members would have been expected.

EXPERIMENTAL STUDY OF THE RELATIONSHIP BETWEEN PERCEIVED SELF-COMPETENCE AND ACCEPTANCE AND ETHNIC ATTITUDES AND PREFERENCES

Researchers have manipulated the correlates of self-esteem in an effort to effect changes in the construct. For example, Reschly and Mittman (1973) found seventh grade low self-esteem children, as assessed by the Coopersmith's Self-Esteem Inventory (Coopersmith, 1968), to emit a low frequency of positive self-statements. In a later study, Mirels and McPeek (1977) reported enhanced self-esteem following an advocacy manipulation in which subjects were required to write positive statements about themselves. Vasta (1976) showed that the rate of positive and negative self-statements could be altered and that an increase in the client's feelings of self-worth resulted. Consistent with these findings, Hauserman, Miller, and Bond (1977) reported an increase in self-esteem as measured by the Bolea Pictorial Self-Concept Scale (Bolea, 1971) in children in grades kindergarten to 4th grade following an increase in the children's rate of self-reinforcement. Based on findings of this nature, Bandura (1977) argued that low self-esteem involves a tendency to devalue oneself and one's abilities, and thus that low self-esteem individuals show more self-criticism than high self-esteem individuals.

Ascione and Borg (1983) assumed that self-esteem is based both on specific task related criteria for performance and on comparisons made between the individual and others. They reported that helping 3rd, 4th, and 5th graders establish realistic goals, praising behavior or abilities, and modelling self-acceptance resulted in more positive

self-esteem. Ascione and Borg's method for self-esteem enhancement was based on that of Felker, Stanwyck and Kay (1973), who trained teachers to help children become more self-rewarding by modeling praise, encouraging realistic assessments and goals, and teaching self-praise and praise of others. Felker et al. (1973) showed that this manipulation was effective in increasing the self-esteem, as measured by the Piers-Harris Self-Concept Scale (Piers & Harris, 1964), of children in grades 1 to 6. These procedures for self-esteem enhancement assume that self-esteem is dependent on the reactions of significant others (e.g. teachers) to one's behavior and capitalize on the established finding that low self- esteem individuals emit fewer positive and more negative self-statements than do their high self-esteem counterparts (Reschly & Mittman, 1973; Vasta, 1976). Therefore, the approach focuses on eliciting positive self-statements and extinguishing negative ones.

As previously discussed in the first study comprising this investigation, Martin and Halverson (1981) have suggested that the tendency of young children to assess the ingroup positively and the outgroup negatively results from the need to enhance self-esteem. Along these lines, Ehrlich (1973) found that prejudice in early elementary school children was related to low self-esteem. Accordingly, it can be theorized that increasing self-esteem may result in more positive attitudes to and liking of others differing in ethnicity. The present study examined the effects of Ascione and Borg's (1983) technique for self-esteem enhancement on the ethnic attitudes and liking of the children in the previous study who were low on self-esteem. Selection of this technique was based on the similarity of Ascione and Borg's

conceptualization of the development of self-esteem to that espoused in this study as well as for the comprehensiveness of the intervention paradigm. For purposes of this study the dimensions of self-esteem were perceived self-competence and acceptance following Norem-Hebeisen's (1977) and Harter's (1978, 1982) conceptualization of the construct. Specifically, it was predicted that White children in the enhanced self-evaluation program as compared to their control counterparts would show more positive attitudes and increased liking for Blacks and Native Indians.

Method

Subjects.

The subjects for this study were 15 kindergarten (seven males and eight females) and 14 third grade children (five males and nine females) who scored below the median for their sex and age group in schools A and B on perceived-competence-and-social-acceptance. The median scores for self-competence and acceptance for each school and gender are presented in Table 18. Within each age group and school, children were randomly assigned to a treatment self-enhancement and a non-treatment control group. However, one child in the self-enhancement group left the school leaving 15 children. Three kindergarten children in the control group refused to participate in all sessions; therefore, their data was discarded, leaving 10 children as controls. Sample sizes for each grade, gender, and condition are presented in Table 19.

Post-Intervention Measures.

The "Self-Perception Profile for Children" (Harter, 1983) used in the previous study was used to measure post-treatment perceived-self-competence-and-acceptance in third grade children. The "Pictorial Scale of Competence and Social Acceptance" was used with kindergarten children (Harter & Pike, 1984).

To measure post-treatment attitudes toward Blacks, the PRAM II, Form B, slightly altered, was used. This test consisted of 16 of the original PRAM II drawings and stories. Of the stories, 12 referred to the assessment of ethnic bias and four were filler items. Items 5 and 6 from Form A replaced items 23 and 24. This change was made to correct for number of positive/negative adjectives by gender. The Ethnic Boxes

Table 18

Median Scores of Perceived Self-Competence and Acceptance by School and Gender

Grade	School	
	A	B
Kindergarten[a]		
Males	79	77.5
Females	83	79
Third[b]		
Males	103	104
Females	90	79

[a] Maximum score 96.

[b] Maximum score 120.

Table 19

Sample Characteristics of Enhancement and Control Conditions

Grade	Condition	
	Enhancement	Control
Kindergarten		
Males	4	1
Females	3	3
Third		
Males	3	2
Females	5	4
Total	15	10

task and social distance (i.e. liking) measures were used again to assess attitudes and preferences to both Blacks and Native Indians.

Procedure.

The nine teachers of children in the self-enhancement program were instructed to observe the target children for situations in which the children displayed some behavior or completed some assignment that the child should have discriminated as a successful classroom experience. The teacher was to then request the child to "Tell me something good about yourself". Immediately after elicitation of the self-assertive statement a social reinforcer was to be delivered (e.g. hug, wink, pat on the back, "good", "I am proud of you", "that makes me happy", etc.). If a child was unable to give a positive self-statement, the teacher was to model a statement and the child was to be requested to repeat it. Teachers were individually coached in the administration of this program and were asked to keep records. This procedure was implemented for 3 weeks. Teachers were requested to ask for three elicitations per day.

Parallel to the teacher's enhancement program the experimenter met with each group of experimental and control children for about half an hour twice a week for three weeks. The sessions with the experimental children were based on the following guidelines (Ascione & Borg, 1983):

(I) Modeling. The experimenter made favorable statements about herself, as a model for the children.

(II) Reinforcement. The experimenter asked each child in the group "Tell me something good about yourself". The experimenter reinforced these elicited self-perception statements by: (a) making an "I-statement" to voice her feelings about the child's remark. "I-statements" in this

context refer to those statements that indicate how the positive statement emitted by the child affected the experimenter (e.g.: "I am happy to hear that"), (b) restating the child's remark, or (c) agreeing with the child's perception of himself/herself. Similar reinforcing statements were given in situations where children made spontaneous self-perceptive statements.

(III) Extinction. If a child in the group made a spontaneous unfavorable self-perception statement, the experimenter either ignored the negative remark or expressed her own feelings about the remark using an "I-statement" (e.g. "I feel sad to hear that").

(IV) Prompting. The experimenter asked each of the participating children a question about themselves. The experimenter worded the question so that the child's answer could be either positive or negative (i.e." Do you think you are a person that is easy to like?"). If positive, the experimenter immediately responded with verbal reinforcement; if negative, the experimenter ignored the statement.

(V) Eliciting Praise. The experimenter asked each child in the group a question about himself or herself. The question was worded so that the child's response would be favorable (e.g. "Do you think you are helping me?"). The experimenter immediately reinforced the response verbally.

Equivalent sessions with the control children consisted of games and story reading activities. The experimenter took particular care that each child received a similar amount of attention in the form of questions about the games or stories as did the children in the treatment program.

In order to control for experimenter bias, the sessions were tape

recorded, transcribed, and scored by a scorer for the various categories of statements. Experimenter's elicited statements were classified as favorable, prompts, eliciting praise, and other. Children's spontaneous utterances were categorized as self-perceptive and other. Finally, children's responses were coded as positive, negative, and no response while the experimenter's responses were categorized as "I-positive", re-statement, agreement, disagreement, "I-negative", ignore, and other. For instructions to scorer and coding form see Appendix H. Subsequently, the main experimenter scored 20% of the protocols to establish reliability.

Following the self-enhancement period, both groups of children were administered the post-test measures, i.e. PRAM II, Ethnic Boxes task, social distance scale, and either the "Self-Perception Profile for Children" for third graders or the "Pictorial Scale of Competence and Social Acceptance" for kindergarten children. The re-test was conducted by a White tester blind to group membership. For this testing, the main experimenter brought each target child to the test room and spent about five minutes with him/her during which a short version of the self-enhancement/control program was implemented, for purposes of re-establishing the self-esteem induction. For the experimental children, the experimenter asked each child to tell her something good about himself/herself and verbally praised them. Short mood inducing paradigms have been shown to influence subsequent performance (Wright & Mischel, 1982). For the control children, a normal conversation was conducted.

Results

Preliminary Analyses.

Outlier analyses and tests for significance of skewness were performed separately by grade on the pre-test and post-test variables. Variables were: perceived-self-competence-and-acceptance, positive and negative attributions to Whites, Blacks, and Indians as assessed by the Ethnic Boxes task; pro-White/anti-Black bias on the PRAM II, (adapted Form A, pre-test; Form B, post-test); and liking of Whites, Blacks, and Native Indians. These analyses were performed on both pre-test and post-test measures since the values might have differed for the subsamples of children participating in the intervention. There were no univariate or multivariate outliers. No significant skewness was found for the kindergarten children, but two scores (i.e. positive attributions to Blacks and to Whites at re-test) of the Ethnic Boxes task showed significant skewness ($z = 2.75$ and $z = 2.81$, $p < .01$) for the third grade children. Since this skewness may have been due to treatment effects the data on these variables was checked separately by condition (i.e. self-enhancement, control). The results indicated no significant degree of skewness.

Reliability of Training Sessions.

The six training sessions resulted in 150 individual protocols. As noted in the procedure section, these protocols were transcribed and coded by a naive assistant. The main experimenter independently coded 20% of the protocols for purposes of establishing reliability. Reliability was estimated from the Pearson correlation between the frequency of observations by each coder in the following categories: (a)

number of questions by the experimenter geared at eliciting positive self-statements from the child, (b) number of experimenter questions other than questions related to the self, (c) number of experimenter responses involving "I-statements", and finally (d) total number of responses by the experimenter to the children's self and non-self related utterances. The obtained correlation coefficients were .92, .97, .89, and .83 respectively.

Analyses of the Self-Enhancement Sessions.

The experimenter's questions directed to the children were summed across all six sessions for each child. In order to check for amount of attention given to each group (i.e. self-enhancement, control), the number of questions asked by the experimenter of each group was analyzed by the Wilcoxon's rank sum test for independent groups. A non-parametric test was used because of positively skewed scores in the control group. The results indicated that the experimenter asked more questions of the control than of the experimental children ($W = 191$, $p < .05$). Inspection of the number of questions directed to each child revealed that two children in the control group who participated in the sessions (i.e. stories, games) by themselves were asked a comparatively high number of questions. This procedure was required to keep their interest. A similar analysis, of the data eliminating these two children was non-significant, $W = 134$, $p > .05$. Because, however, number of questions was not as relevant as type of questions, i.e. self, other; the data on these two children was retained for further analyses in view of the small sample size of the control group.

To assess the responsiveness of the experimenter to each group, the

proportion of the children's statements that were ignored by the experimenter were analyzed. A t-test for independent groups conducted on these data indicated that the proportion of children's statements ignored by the experimenter did not differ in each group, t (23) = .86, $p > .05$.

The number of experimenter questions which were relevant to the self-enhancement training paradigm, i.e. eliciting praise, prompts, and favorable elicited statements were computed. None of the children in the control group were asked questions in these categories, whereas the mean for the self-enhancement group was 2.8 per session. This difference was significant by a sign test, χ^2 (1) = 17.14, $p < .001$ (see Table 20). Thus, the questions asked to the control children were not related to the self but rather to the stories read to them or to the games played (e.g. tic-tac-toe).

The verbal responses of the experimenter to the children's answers to her questions were categorized as "I-positive", "I-negative", re-statements, agreements, and disagreements in accordance with the training paradigm, and " other". Disagreements almost never occurred and therefore they were not considered. For each child the experimenter's "I-positive", "I-negative", agreements, re-statements, and other statements were computed for all six sessions. Subsequently, these scores were expressed as proportions relative to the total number of experimenter's responses to the child's statements (see Table 21). Proportions were used to control for different rates of children's responses which were acknowledged by the experimenter in order to maintain the children engaged in the procedure. These proportions were then analyzed for purposes of establishing differences between the self-

Table 20

Frequency of Different Experimenter Questions in Each Group

Group	N	Favorable Elicited	Questions Prompts	Eliciting Praise
A	15	85	62	112
B	10	0	0	0

Note. A refers to self-enhancement group, B indicates the control group.

Table 21

Mean Proportions of Different Experimenter Responses in Each Group

Response Type	Group: Self-Enhancement (N = 15)	Group: Control (N = 10)
I-Positive	.14	.00
Re-Statements	.30	.36
Agreements	.08	.08
I-Negative	.01	.002
Other	.43	.39

enhancement and control conditions.

According to the training paradigm used in this study, the categories of "I-positive" and "I-negative" were taken to indicate communication to the child of the experimenter's reaction to his/her self-related statements whereas the remaining categories (i.e., agreements, re-statements, other) were considered to indicate general responsiveness. It can be seen in Table 21 that the responsiveness of the experimenter as indicated by the proportion of responses that were agreements, re-statements, and other was similar in both groups and that the "I-positive" type of response was greater in the self-enhancement than in the control group. Since the data were highly skewed in the positive direction for the self-enhancement group, a sign test for independent groups was conducted to assess group differences. The results indicated highly significant group differences in the proportion of "I-positive" and "I-negative" statements that each group of children received, $\underline{X}^2$ (1) = 18.1, $\underline{p} < .001$.

Influence of Self-Enhancement Training.

To examine whether or not intervention (i.e. self-enhancement, control) had an effect on perceived-self-competence-and-acceptance and self-worth, repeated measures multivariate analysis of variance were conducted for the third grade children on the two measures. For kindergarten children a repeated measures analysis of variance on perceived-self-competence-and-acceptance was conducted. Within-grade analyses were conducted because different measures of perceived-self-competence-and-acceptance were employed in the two grades. For third grade children, the multivariate effect was significant, $\underline{F}$ (2,11) = 7.55,

$p < .05$. Examination of the univariate F's for perceived-self-competence-and-acceptance indicated non-significant pre-post by condition interactions, F (1,12) = .05, $p > .05$ and non-significant effects of condition, F (1,12) = .58, $p > .05$, while there was a significant pre-post difference, F (1,12) = 15.70, $p < .01$. For third graders in both conditions (i.e. self-enhancement, control), perceived-self-competence-and-acceptance was greater at post-test than at pre-test (81.5 vs. 91.1 and 84.3 vs. 95.1 respectively). With respect to self-worth, interactions were non-significant, F (1,12) = .68, $p > .05$ and there were non-significant differences of condition, F (1,12) = .01, $p > .05$ or pre-post measurements, F (1,12) = .95, $p > .05$.

Non-significant changes as a result of intervention were found for kindergarten children in perceived- self-competence-and-acceptance, F (1,8) = .94, $p > .05$ and there were no condition differences, F (1,8) = 1.99, $p > .05$ or interactions, F (1,8) = .79, $p > .05$. The pre-training and post-training means and standard deviations for the three dependent variables, perceived-self-competence-and-acceptance (kindergarten, third grade) and self-worth, (third grade only) for each group (i.e. self-enhancement, control) are presented in Table 22. Since kindergarten children did not experience an increase in perceived-self-competence-and-acceptance as a result of the training procedures used in this study, no further analyses were conducted to investigate the relation between increased perceived-self-competence-and-acceptance and ethnic attitudes and preferences. In the case of the third grade children, self-perceived-competence-and-acceptance increased significantly as a result of the intervention for children in both the self-enhancement and in the

Table 22

Means and Standard Deviations of the-Perceived-Self-Competence-and-Acceptance and Self-Worth Measures for each Grade and Training Condition

	Grade							
	Kindergarten				Third			
	Self-Enhancement (N = 7)		Control (N = 4)		Self-Enhancement (N = 8)		Control (N = 6)	
Measures	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Perceived Self-Competence and Acceptance	72.2 (7.3)	70.1 (8.2)	69.7 (7.7)	78.7 (12.2)	81.5 (10.1)	91.1 (9.9)	84.3 (11.8)	95.1 (4.5)
Perceived Self-Worth	----	----	----	----	19.0 (3.6)	21.0 (2.6)	19.8 (2.6)	20.0 (2.4)

Note. Standard deviations are given in parentheses.

control conditions and there were no significant differences between the two conditions in the magnitude of the increase. Therefore the paradigm for self-evaluation enhancement used in this study was not instrumental in producing a differential effect. Furthermore, no relation between self-competence-and-acceptance and ethnic attitudes and preferences was found in the correlational study. Consequently, no further analyses were performed to test the hypothesis of this study, that is, that increases in self-evaluations would result in more positive attitudes toward and increased liking of other group members.

Discussion

The object of the study reported in this chapter was to assess experimentally the relationship of White kindergarten and third grade children's perceived-self-competence-and-acceptance and ethnic attitudes toward and liking of Blacks and Native Indians. Moreover, for third graders, the role of self-esteem was also evaluated.

To this effect, the participating children were randomly assigned to either a self-enhancement or a control group. Subsequently, the effects of the experimental manipulation on the self-variables were evaluated. No increments in perceived-self-competence-and-acceptance were found for the kindergarten children. Since the paradigm was not instrumental in effecting change in perceived-self-competence-and-acceptance, no further analyses of the relationship of the self-concept variables to ethnic attitudes and liking were undertaken in the case of kindergarten children.

For the third graders, similar analyses indicated that the self-enhancement and control groups did not differ from each other at post-test but that both groups showed an increase in perceived-self-competence-and-acceptance at post-test. These findings indicate that the self-enhancement paradigm did not have a differential effect. That is, Ascione and Borg's (1983) procedures for self-evaluation enhancement, as implemented in this study, did not produce a differential effect beyond attention procedures used in the control group. Perhaps taking the children from the classroom made them feel special. In addition, the approving and warm manner of the experimenter during the

sessions may have conveyed to the children that their behavior was appropriate and desirable as well as that what they were doing was important. It is well known that a child's positive self-esteem develops out of the knowledge that they can behave in a socially acceptable manner which others, particularly adults, regard as worthwhile and valuable (Blanco, 1972). However, a no-treatment control group was not used, and therefore, it is not possible to conclude that attention resulted in post-test differences in the self-values.

Given that the increase in third grade children on perceived-self-competence-and-acceptance could not be attributed to the manipulation and that, in addition, no relation between this construct and ethnic attitudes and liking variables was found in the correlational study and there were not significant pre-post differences in self-esteem no further analysis were performed.

Thus, the issue of causality raised by the positive results of the correlational study concerning self-esteem and ethnic bias toward Blacks and Native Indians, assessed via a forced-choice format, remains unclarified. Future research on these issues needs to be conducted. Variability introduced in the present study by using various classrooms in two schools may have affected the results. Future research under more controlled circumstances and using a non-treatment control group may help to clarify the causal relation between self-esteem and ethnocentrism and, in addition provide helpful information to clinicians with respect to important mediators of self-enhancement.

Summary and Discussion of the Research Project

The central issue addressed in these two studies concerned White children's ethnic bias toward Blacks and Native Indians assessed in relation to cognitive processes, in particular the perception of similarity. Also of central importance was the evaluation of ethnically dissimilar others (i.e. Blacks, Native Indians) in relation to the children's self- evaluations of competence and acceptance and, when pertinent to the age group, self-worth.

The results indicated that ethnic bias is best viewed as a multi-dimensional construct. Responses depended on the assessment instruments; age and cognitive developmental factors, i.e. perception of similarity; ethnicity of the target group; and, to some extent, self-evaluations of competence, acceptance, and self-worth.

Consistent with the literature, third graders were less biased than kindergarten children toward Blacks and Native Indians on the forced-choice adapted PRAM II. The format and scoring of this bias measure, however, maximizes owngroup-othergroup polarization of attitudes. The decline with age in polarization of attitudes was clarified by the results obtained on the free-choice measure of bias. On this instrument, it was observed that with increasing age negative attributions to the owngroup and positive attributions to other ethnic groups increased. However, the number of positive attributions to owngroup and negative attributions to Blacks and Native Indians did not differ for these two age groups. These results were interpreted as suggesting that ethnic bias defined as positive evaluations of owngroup and negative evaluations of othergroups when children are free to express these attitudes

independent of their attitudes to other groups, does not change substantially from kindergarten to third grade. What does change are children's positive attitudes to othergroups and negative attitudes to owngroup. These central aspects of attitudes have hitherto not been separated from the traditional bias measures. It appears in this study that they have been the effective agents of developmental shifts observed on forced-choice attitude measures. The results of this study suggest that with age, different ethnic groups are viewed as sharing both more positive and more negative characteristics or in cognitive developmental terms, as being more differentiated and more similar.

Concerning the ethnic bias construct, these results, taken as a whole, indicate that polarization of attitudes decreases with increasing age. The similar pattern of results obtained in these two scales with respect to Blacks and Native Indians suggests that general processes, rather than processes specific to ethnicity may be responsible for this developmental shift in the ascription of different valence traits to ethnic groups.

Ethnicity, however, may be more salient either when stimuli that highlight ethnic differences are used, i.e. photographs or when tasks that require a greater degree of ego involvement are utilized, e.g. social distance instruments. Unfortunately, the latter explanation cannot be adequately tested when the results of this research are evaluated since the stimuli for the ethnic attitudes measures consisted of drawings whereas the stimuli for the liking task comprised photographs. On the other hand, the differential results with respect to Blacks and Native Indians on the liking task suggest that perceptual

salience may be at work here. Future research using the same form of stimuli will help to elucidate the nature of the differential findings obtained in this study on the attitude and liking measures.

As a whole, the results indicated the need for careful selection of assessment instruments in relation to the purpose of the inquiry. The free-choice measure used and described in this research appears suitable to answer questions concerning developmental issues of ethnic bias.

With respect to the postulated cognitive processes influencing perceived similarity both within and between ethnic groups, it was found that third grade children had higher scores than kindergarten children, including for the perception of within-group similarity. The latter unexpected finding was interpreted as indicating that judgments of similarity may be related both to adeptness at using both observable and non-observable features of others and to the availability of observable features. In this research, as noted in a previous discussion, it was found that kindergarten children gave more variable responses than did third grade children to judgments of within-group perceived similarity. Thus, it may be that cognitive development affects the perception of within-group similarity both in terms of the number of dimensions on which it can be based as well as with respect to the consistency with which is judged. In this respect it is noteworthy that in this study conservation was found to be a significant predictor of mean perceived similarity between ethnic groups but not of perceived similarity within ethnic groups. Research in particular with children older than the ones assessed in the present research will be beneficial to establish the developmental course of within-group perceived similarity.

No consistent pattern supportive of the postulated relationship between perceived similarity and ethnic bias was found. The obtained findings, however, appeared to indicate that high within-group perceived similarity may be indicative of negative attitudes while high between-group perceived similarity was associated with positive attitudes. Since perception of high similarity within ethnic groups supposedly affects the generalization of evaluative responses to all members of a group (Dollard & Miler, 1950), it should be noted that parents, educators, and society at large need to be aware so as to not reinforce this tendency. Though Katz (1973) and Lickona (1974) suggest that perceived within-group similarity peaks around age 4, this research suggests that it appears to increase with age. Such a result is unsettling, and implies on a practical level that generalizations and global evaluations of ethnic groups need to be avoided at least during the elementary years. On the other hand, emphasizing and providing opportunities for children to notice between-group similarities, as suggested by Katz (1976) may be one of the avenues toward the elimination or at least the mitigation of ethnic bias.

Finally, the expected inverse relation between perceived competence and acceptance and ethnic bias was not supported by the data of the correlational study. High self-worth, in the correlational study, was positively associated with ethnic bias. This association showed on the forced-choice measure of ethnic bias toward both Blacks and Native Indians. In view of the nature of these instruments and existing literature indicating either no relation between self-esteem and ethnic bias (Katz et al., 1975) or a negative relationship (Ehrlich, 1973;

Stephan & Rosenfield, 1978), an explanation in terms of preservation of high self-esteem through group positiveness is suggested.

In summary, the findings of the present research provide insight into the developmental course of different aspects of ethnic bias. Thus, it was found that positive attitudes to owngroup and negative attitudes to Blacks and Native Indians did not differ for kindergarten and third grade children. However, third graders attributed more negative characteristics to their owngroup and more positive characteristics to Blacks and Native Indians than did kindergarten children. These findings indicate that with age ethnic groups are seen as more similar and more differentiated. The greater similarity was supported by the findings of the perceived similarity task. That is, older children perceived more between-group similarity than kindergarten children did. The results also provided partial support for the hypothesized relationship between ethnic bias and cognitive processes believed to influence the perception of similarity. Thus, conservation scores were positively associated with and preceded high between-group perceived similarity which, in turn, was found to be predictive of positive attitudes. On the other hand, high within-group perceived similarity appeared to be related to negative attitudes. Conservation scores and within-group perceived similarity values did not form a meaningful Guttman scale. This suggests that these two abilities, as assessed in this study, may be developing concurrently. Whereas the regression analyses including all the variables of interest in this study provided inconclusive results concerning the relation between perceived similarity between ethnic groups, cognitive development and ethnic attitudes, results were

clarified by the reduced path analysis conducted. That is, this analysis indicated that between ethnic groups perceived similarity through its relation to conservation scores is indicative of ethnic bias toward Blacks and Native Indians at least on the PRAM II. Little support for the role of self-evaluations in ethnic attitudes and liking was found. The findings strongly pointed to the multi-dimensional character of ethnic bias and indicated gaps in knowledge to be filled by continuing research on these issues.

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APPENDIX A

Request for Participation:

Letter to Parents

APPENDIX A

March, 1987

Dear Parents,

We are writing to ask permission for your child to participate at school in a project approved by the principal and the director of elementary schools.

We at the Centre for Research in Human Development have been studying the development of ethnic attitudes for the past seven years with support from the Quebec government's " Fonds pour la Formation des Chercheurs et l'Aide a la Recherche".

This study is concerned with how children change with age in their attitudes toward different ethnic groups. We believe that the information obtained will be valuable to teachers and educators in their palanning educational curriculums to improve classroom relations and, thus, to help children enhance their classroom experiences.

Your child would be interviewed three times over the school year for approximately 20-25 minutes each time by a trained assistant at times, during school hours, chosen as convenient by the teacher. During these interviews children will be asked to group pictures of children of different ethnic groups, to judge whether changes in the shape of various materials changes the quantity, and to answer a series of questions concerning how they feel about themselves and others. These are simple tasks which children find enjoyable (they often ask when it will be their turn!) and of course no child is ever forced to participate.

In a second part of this study, some children who feel less sure of themselves will be invited to participate with 4 to 8 other children in six 30 minutes sessions held over the course of six weeks. In some of these sessions the children will read stories and play games with the researcher and, in others they will be helped to say positive things about themselves. The teachers of these children will also praise the child's positive statements on a daily basis. Subsequently the children will participate in one 20-25 minutes long individual session sorting pictures of children and answering questions concerning how they feel about themselves. These sessions will also take place at times considered by the teacher to be most convenient.

.../2

APPENDIX A (Cont'd)

A more detailed description of the project is available with the school's secretary. Should you wish more information, please contact Mrs. Sufrategui at 766-0927 (days/ evenings), 848-7560 (days).

Please complete the enclosed form indicating whether or not your child can participate and mail it to us in the pre-addressed envelope. If you agree to participate, we would very much appreciate your returning the brief questionnaire. All the information will remain confidential with our research team. We will send you a report summarizing the results of the study once completed.

We appreciate and thank you for your assistance.

Anna-Beth Doyle, Ph.D.
Associate Professor
Psychology
Concordia University

M.R. Sufrategui, M.A.
Graduate Student
Psychology
Concordia University

APPENDIX B

Parental Consent Form

APPENDIX B

Ethnic Attitudes
October, 1986.

Parental Consent Form

Name of child _____

Grade _____

School _____

Name of father, mother, or guardian _____

_____

I consent for my child to participate in the first part (Yes_____No_____) / second part if asked (Yes_____No_____) of the study of ethnic attitudes directed by Dr. Doyle and M.R. Sufrategui as described in the attached letter.

Signature _____

Address (to receive a report) _____

_____

Telephone No. _____

APPENDIX C

Parental Questionnaire

APPENDIX C

Questionnaire

If you agree to your child's participation in the project, please complete the following questions.

1. Who lives at home with your child? Father_____Mother_____

   Brother_____Sister_____Other(s)adult(s)_____

   (Please indicate relation to child, ex. uncle, aunt, friend, etc.)

2. What kind of work is the mother doing?_____

   _____

   (If, at present, mother does not work outside the home please indicate previous occupation_____)

3. In what kind of business or industry does the mother work?

   _____

4. What are the mother's most important activities or duties at work?

   _____

   (For example: Keep account books, sell cars, operate printing press)

5. What kind of work is the father doing?_____

   _____

APPENDIX C (Cont'd)

Questionnaire (Cont'd)

6. In what kind of business or industry does the father work?

_____

7. What are the father's most important activities or duties at work?

_____

(For example: Keep account books, sell cars, operate printing press)

8. What is the mother's level of education? (highest grade completed)

Elementary_____High School_____CEGEP_____

University B.A._____Graduate Studies_____

Post-Doctoral Studies_____

9. What is the father's level of education? (highest grade completed)

Elementary_____High School_____CEGEP_____

University B.A._____Graduate Studies_____

Post-Doctoral Studies_____

Please mail this form in the enclosed stamped envelope to:

Dr. Anna-Beth Doyle
Centre for Research in Human Development
Concordia University
1455 De Maisonneuve Blvd. West, Montreal,
Quebec, H3G 1M8

APPENDIX D

Research Measures:

Techniques of Data Collection

APPENDIX D-1

Conservation Test Scoring Instructions

The conservation test is made up of the following 7 tasks:

1. Two-dimensional space

2. Number

3. Substance

4. Continuous quantity

5. Weight

6. Discontinuous quantity

7. Volume

Only the last item in each task is scored, EXCEPT for volume where the second item is scored (i.e. same volume):

For BEHAVIOR: The child is given a score of 2, if s/he gives the correct response, or a score of 0, if s/he gives an incorrect response.

For EXPLANATION: A child's response can be scored 0,1 or 2.

A score of 2 is given if the response <u>fully</u> explains the concept of conservation: e.g.

1. Invariant quantity: "You did not add or substract anything", "they were the same before and you did not change the weight (volume, number, etc.)", "it is the same number".

2. Compensation: "This glass is taller, but it is also thinner".

3. Reversibility: "If we put this back into this glass, it would be the same", "If we made this back into a ball, it would be the same".

A score of 1, is given for a correct response that does not fully explain the concept of conservatioon, but is based on the tester's m ıinpulation. e.g. "You made it into a line", or "You poured the water from this glass into the little ones".

If the child gives a response that does not clearly receive a score of 2, <u>probe once</u> and indicate you did so by writing a "Q".

APPENDIX D-1 (Cont'd)

Conservation Test Scoring (Cont'd)

Probe by repeating the child's answer and adding "How does that keep it the same?" e.g.

> "How does making this into a line keep it the same?" or "How does pouring the water into little glasses keep it the same?"

NOTE: If the child wants to count for an explanation, stop him by saying "Try to tell me how they're the same without counting". "You can count them after if you like". If the child insists on counting, let them count, and then say, "Can you tell me another way that they are the same".

A score of 0 is given for incorrect answers, magical explanations, a perceptual explanation. e.g.

> "My teacher says so" or "they look the same". DO NOT PROBE.

IF CHILD FAILS (i.e. gets explanations incorrect) tasks C, D, and F discontinue the test.

APPENDIX D-2

Self-Perception Profile for Children. Individual Item and Recording Sheet.

Name_____Age_____Birthday_____
year month day

Grade_____Examiner_____Boy or Girl (circle which)

SAMPLE SENTENCE

Really True for me	Sort of True for me			Sort of True for me	Really True for me
		Some kids would play outdoors in their spare time	BUT Other kids would rather watch T.V.		
____	____			____	____

1.		Some kids feel that they are very good at their school work	BUT Other kids worry whether they can do the school work assigned to them.		
____	____			____	____
2.		Some kids find it hard to make friends	BUT For other kids it's pretty easy.		
____	____			____	____
3.		Some kids do very well at all kinds of sports	BUT Others don't feel that they are very good when it comes to sports.		
____	____			____	____
4.		Some kids are happy with the way they look	BUT Other kids are not happy with the way they look.		
____	____			____	____
5.		Some kids often do not like the way they behave	BUT Other kids usually like the way they behave.		
____	____			____	____
6.		Some kids often get mad at themselves	BUT Other kids are pretty pleased with themselves.		
____	____			____	____

APPENDIX D-2 (Cont'd)

7.		Some kids feel like they are just as smart as other kids their age	BUT	Other kids aren't so sure and wonder if they are as smart.		
____	____				____	____
8.		Some kids have a lot of friends	BUT	Other kids don't have very many friends.		
____	____				____	____
9.		Some kids wish they could be a lot better at sports	BUT	Other kids feel they are good enough at sports.		
____	____				____	____
10.		Some kids are happy with height and weight	BUT	Other kids wish their height or weight were different.		
____	____				____	____
11.		Some kids usually do the right thing	BUT	Other kids often don't do the right thing.		
____	____				____	____
12.		Some kids don't like the way they are leading their life	BUT	Other kids do like the way they are leading their life.		
____	____				____	____
13.		Some kids are pretty slow in finishing their school work	BUT	Other kids can do their school work quickly.		
____	____				____	____
14.		Some kids are kind of hard to like	BUT	Other kids are really easy to like.		
____	____				____	____
15.		Some kids think they could do well at just about any new outdoor activity they haven't tried before	BUT	Other kids are afraid they might not do well at outdoor things they haven't ever tried.		
____	____				____	____

APPENDIX D-2 (Cont'd)

16.		Some kids wish their body was different	BUT	Other kids like their body the way it is.		
____	____				____	____
17.		Some kids usually act the way they way they are supposed to	BUT	Other kids often don't act the way they are supposed to.		
____	____				____	____
18.		Some kids are happy with themselves most of the time	BUT	Other kids often are not happy with themselves.		
____	____				____	____
19.		Some kids often forget what they learn	BUT	Other kids can remember things easily.		
____	____				____	____
20.		Some kids are always doing things with a lot of kids	BUT	Other kids usually do things by themselves.		
____	____				____	____
21.		Some kids feel that they are better than others their age at sports	BUT	Other kids don't feel they can play as well.		
____	____				____	____
22.		Some kids wish their physical appearance was different	BUT	Other kids like their physical appearance the way it is.		
____	____				____	____
23.		Some kids usually get in trouble because of the things they do	BUT	Other kids usually don't do things that get them in trouble.		
____	____				____	____
24.		Some kids like the kind of person they are	BUT	Other kids often wish they were someone else.		
____	____				____	____
25.		Some kids do very well at their classwork	BUT	Other kids don't do very well at their classwork.		
____	____				____	____

APPENDIX D-2 (Cont'd)

26.		Some kids wish that more kids liked them	BUT	Others feel that most kids do like them.		
27.		In games and sports some kids usually watch instead of play	BUT	Other kids usually play rather than watch.		
28.		Some kids wish something about their face or hair looked different	BUT	Other kids like their face and hair the way they are.		
29.		Some kids do things they know they shouldn't do	BUT	Other kids hardly ever do things they know they shouldn't do.		
30.		Some kids are very happy being the way they are	BUT	Other kids wish they were different.		
31.		Some kids have trouble figuring out the answers	BUT	Other kids almost always can figure out the answers.		
32.		Some kids are popular with other their age	BUT	Other kids are not very popular.		
33.		Some kids don't do well at new outdoor games	BUT	Other kids are good at new games right away.		
34.		Some kids think that they are attractive or good looking	BUT	Other kids think that they are not attractive or good looking.		
35.		Some kids are usually very kind to others	BUT	Other kids wish they would be kinder to others.		

APPENDIX D-2 (Cont'd)

36.		Some kids aren't very happy with the way they do alot of things	BUT	Other kids think the way they do things is fine.		
____	____				____	____

APPENDIX D-3

The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children. Individual Recording and Scoring Sheet, Form P-K.

Child's Name_____Birthdate_____Age_____Gender: M F

Class/Grade_____School_____Testing Date_____

Examiner_____

Item Order and Description	Cognitive Competence	Peer Acceptance	Physical Competence	Maternal Acceptance
1. Good at puzzles	1___			
2. Has a lot of friends		2___		
3. Good at swinging			3___	
4. Mom smiles				4___
5. Gets stars on papers	5___			
6. Stays overnight at friends		6___		
7. Good at climbing			7___	
8. Mom takes you places				8___
9. Knows names of colors	9___			
10. Has friends to play with		10___		
11. Can tie shoes			11___	
12. Mom cooks favourite foods				12___
13. Good at counting	13___			
14. Has friends on playground		14___		
15. Good at skipping			15___	
16. Mom reads to you				16___

APPENDIX D-3 (Cont'd)

17. Knows alphabet	17___			
18. Gets asked to play by others		18___		
19. Good at running			19___	
20. Mom plays with you				20___
21. Knows first letter of name	21___			
22. Eats dinner at friends		22___		
23. Good at hopping			23___	
24. Mom talks to you				24___
Column (Subscale) Total	_____	_____	_____	_____
Column (Subscale) Mean (Total Divided by 6)	_____	_____	_____	_____

Comments:

APPENDIX D-4

Procedures of Data Collection of Ethnic Attitudes, Cognitive,

and Perceived Similarity Variables.

February 2, 1987

Ethnic Picture Test 1986 South Shore

School _____ Grade ____ Sex _____ Order 1 2 3 4 5 6
Birth date _____ Name _____
Testing dates Sess. 1_____ Sess. 2_____
Tester 1_____ 2_____ Subject No._____

1. Recognition (sit to right of subject for all tasks except PRAMII)
Use same-sex photos only.
Choose two photos for each ethnicity from the child's age e.g. B1 B2, and one for each ethnicity from the other age, B3. Place 9 photos in a semicircle in front of child in the order BWIBWIBWI.
I have some pictures of children your age. Some of them White Canadians, some Black Canadians, and some Native Indian (say child's group first).

Which ones are Wh Can? B1 B2 B3 W1 W2 W3 I1 I2 I3 correct ___
Which ones are B1 Can? B1 B2 B3 W1 W2 W3 I1 I2 I3 correct ___
Which ones are Nat Ind? B1 B2 B3 W1 W2 W3 I1 I2 I3 correct ___

This child is B1 Can. This child is Wh Can. This child is NI.
repeat in sets of three
If child made mistake in recognition, repeat 3 questions till right.
Note number of trials needed to be correct. _____

Session 1 or Session 2
2. 4. 3. Ethnic Boxes

Use same-sex silhouettes and pictures. Put the picture of the white child on the left box, put the pictures of the other-group children on the other two boxes. Order the 24 sets of stimulus pictures as on the scoring sheet.

Each of these boxes belongs to a child. This one belongs to a white child, this one to an Indian child and this one to a black child. Mention the child's own group first.

Practice with the 9 photos used in Recognition: **I will show you pictures and I want you to put them in the boxes where they go.** Mention the child's own group first). Take the photos of children in sets of three and say:" **These children are white. With what child do they go, the white child, the black child or the Indian child? -- These children are black. With what child do they go, the Indian child, the black child or the white child? -- These children are Indian. With what child do they go?"** (The child must put the card(s) in the appropriate box by him

APPENDIX D-4 (Cont'd)

(her)self. Repeat the procedure until the child makes a correct sorting into each of the three boxes. Note number of trials needed ____

Practice: Take the 3 T-shirt cards and say: **"These are pictures of t-shirts. You can put all the t-shirts with one child, one t-shirt with each child, or two t-shirts with one child and one with another. Who does a t-shirt go with, the black child, the white child, the Indian child, or more than one child?** Child should sort into at least two boxes. If child does not, say **"Let's think of something that belongs to more than one child. How about eyes? Each child has eyes. If I had pictures of eyes, you could put them with more than one child, right? Where would you put pictures of eyes? Point to where you would put them.** Correct child and use other items, e.g. ears, until child responds correctly. Note extra trials needed _____.

Say: **"Now I am going to tell you how some children are, and I want you to tell me if it is the white child, the black child the Indian child, or more than one child who is like that ."** Proceed with 24 questions, giving the sets of 3 cards after reading each question. Record by marking number of cards in box in the black, white and/or indian column on the score sheet.

1. CLEAN: Some children are clean. They never forget to wash their hands before eating. Who is clean? Is it the black child, the white child, the Indian child, or more than one of them who is clean?

Pos White _____ Black _____ Indian _____

2. UNFRIENDLY: Some children are unfriendly. They are always pushing other children around and getting into fights. Who is unfriendly? Is it the white child, the indian child, the black child, or more than one child who is unfriendly?

Neg White _____ Black _____ Indian _____

3. MEAN: Who is mean and always poking other children? Is it the Indian child, the black child, the white child or more than one child who is mean?

Neg White _____ Black _____ Indian _____

4. WONDERFUL: Some children are simply wonderful. They can do just anything with glue and paper. Who is wonderful? Is it the white child, the indian child, the black child or more than one who is wonderful?

Pos White _____ Black _____ Indian _____

APPENDIX D-4 (Cont'd)

5. LIKES TO RUN: Some children like to run. Who likes to run? Is it the black child, the white child, the Indian child, or more than one of them who likes to run?

Fill White _____ Black _____ Indian _____

6. DIRTY: Some children always have dirty hands and put finger marks everywhere. Who is dirty? (If child seems to lose track of task and starts putting all in one box or all in all three boxes repeatedly, try repeating entire set of choices for an item or two. If child appears to follow task, use the abbreviated version given here)

Neg White _____ Black _____ Indian _____

7. HEALTHY: Some children are healthy. They eat good food that gives them lots of energy. Who is healthy?

Pos White _____ Black _____ Indian _____

8. GOOD: Some children are really good and keep their room clean. Who is good?

Pos White _____ Black _____ Indian _____

9. CRUEL: Some children are cruel. They sometimes throw rocks at little cats. Who is cruel?

Neg White _____ Black _____ Indian _____

10. STUPID: Some children do stupid things like pulling all the toilet paper in a bathroom. Who is stupid?

Neg White _____ Black _____ Indian _____

11. NICE: Some children are really nice. When they receive a present like this one they always appreciate it and say thank you. Who is nice?

Pos White _____ Black _____ Indian _____

12. LIKE TO SING: Most children like to sing. Who do you think likes to sing?

Fill White _____ Black _____ Indian _____

13. HAPPY: Some children are very happy. They smile and laugh a lot. Who is happy?

Pos White _____ Black _____ Indian _____

APPENDIX D-4 (Cont'd)

14. SELFISH: Some children are selfish. They like to keep things to themselves and they don't share with their friends.

Neg White _____ Black _____ Indian _____

15. SICK: Some children are always sick. They often miss school and cannot play with their friends because they have to stay in bed. Who is sick?

Neg White _____ Black _____ Indian _____

16. FRIENDLY: Some children have a lot of friends because they are fun to be with. Who is friendly?

Pos White _____ Black _____ Indian _____

17. LIKES T.V. Many children like watching T.V. Who likes watching T.V.?

Fill White _____ Black _____ Indian _____

18. NAUGHTY: Some children are naughty. They often do things like drawing on the wall with crayons. Who is naughty?

Neg White _____ Black _____ Indian _____

19. KIND: Some children are kind. They bring flowers to their teacher. Who is kind?

Pos White _____ Black _____ Indian _____

20. SAD: Who is sad because no-one wants to play with them?

Neg White _____ Black _____ Indian _____

21. LIKES MUSIC: A lot of children like to listen to music. Who likes music?

Fill White _____ Black _____ Indian _____

22. BAD: Some children are bad. They steal money from their mother's purse. Who is bad?

Neg White _____ Black _____ Indian _____

23. HELPFUL: Some children are helpful. They like to carry things for other people. Who is helpful?

Pos White _____ Black _____ Indian _____

APPENDIX D-4 (Cont'd)

24. SMART: Who is smart and always does good work in class?

Pos White _____ Black _____ Indian _____

Total Pos White _____ Black _____ Indian _____

Total Neg White _____ Black _____ Indian _____

Perceived Feeling Task.

Examiner says:" Now I am going to read some stories to you that say how WE sometimes feel with others and just like before I want you to tell me if it is the White child, the Black child, or the Indian child, or more than one child that makes you feel that way".

1. COMFORTABLE (O.K.): Sometimes we are in places where there are children that we do not know and we have to ask them for things or they may ask us. If that happened to you, which of these children would make you feel comfortable (o.k.) asking?

Pos. White_____Black_____Native Indian_____

2. SCARED: If a child came knocking at your door one day and you opened it, which of these children would it make you feel scared?

Neg. White_____Black_____Native Indian_____

3. FUN: Some children are fun to be with, to get to know how they are and what they are like. Which of these children do you feel it would be fun to be with so that you would learn more about him/her?

Pos. White_____Black_____Native Indian_____

4. WORRY: Sometimes when we do new things or meet new children we worry because we do not know what they are like. Meeting which one of these children for the first time would make you worry?

Neg. White_____Black_____Native Indian_____

3. 2. 4. Self Label (Use 9 photos)
Indicate order in which statements presented.
1 3 2 **This person is Black. Are you Black?** Y N
2 1 3 **This person is Native Indian. Are you Native Indian?** Y N
3 2 1 **This person is White. Are you White?** Y N
If all answers are No, ask What are you? _____

APPENDIX D-4 (Cont'd)

4. 3. 2. Categorization (Set up pictures in usual order of 9)
Put these pictures into groups of children who belong together. Use as many groups as you need. Here is a card with your name on it. Give all 9 photos plus a blank with child's name written on it. If child doesn't include their card, after the rest have been sorted, hand them the card and say, **"Now put your picture where you belong."**
Possible prod: Pick two that go together. What about other children. Do they go in that group or do they go in another group? (Record for each group, e.g. I1 I2 W2)

Group 1. _____
Group 2. ____ _____
Group 3. _____
Group 4. _____

5. Self Constancy
Can a White child become a Black child if s/he really wants to?
Y N **Why not?** _____ (Probe only if no)

Can a White child become a Black child if s/he puts on a black wig?
Y N **Why not?** _____

Can a White child become a Black child if s/he changes the colour of his/her skin with black make-up?
Y N **Why not?** _____

Can a white child become a Black child if s/he changes the colour of his/her skin with black make-up and puts on a black wig?
Y N **Why not?** _____

Return to the last question answered with a NO.
You said a White child could not become a Black child if . . .
Why couldn't the child become a Black? Is is because
s/he doesn't want to be Black? Y N
s/he still looks White --some skin or hair wasn't covered? Y N
s/he still has White parents? Y N
underneath the skin and wig s/he is still White? Y N

Subject No_____ Name _____

Session 2 or Session 1
6. 8. 7. PRAMII Form A Order BI IB (sit facing the child)

I have here some pictures I'd like to show you, and stories that go with each one. I want you to help me by pointing to the person in each picture that the story is about. Here, I'll show you, what I mean".
Examiner then places the notebook flat on the table in front of child,

APPENDIX D-4 (Cont'd)

opens to the first picture (make sure you label the first three pictures, e.g. **This is a boy, this is a girl, this is a black child,** etc.) and reads the first story on the back of cover, ending with the key question. After child has responded by choosing the figure on his (child's) right (R) or left (L), examiner records the choice on the record sheet.

Code L or R for "left" or "right" figure indicated (from child's viewpoint)

SERIES WB 1 2

1.s	R	L
2.	R	L
3.	R	L
24.	R	L
4.s	R	L
23.	R	L
8.	R	L
9.	R	L
7.s	R	L
11.	R	L
12.	R	L
14.	R	L
10.s	R	L
15.	R	L
17.	R	L
18.	R	L

Attitude (no s) _____

SERIES IW 1 2

1.s	R	L
2.	R	L
3.	R	L
24.	R	L
4.s	R	L
23.	R	L
8.	R	L
9.	R	L
7.s	R	L
11.	R	L
12.	R	L
14.	R	L
10.s	R	L
15.	R	L
17.	R	L
18.	R	L

Attitude (no s) _____

APPENDIX D-4 (Cont'd)

7. 6. 8. Liking

This is my liking board (place vertical to the child with 60 end closest). **You put things on this board closer to you the more you like them and farther away the more you don't like them.**

Practice with kitten, dog, and snake. **Place this kitten on the liking board to show me how much you like or don't like it.** After placement, **What does that mean; how much do you like or not like kittens?** Make sure description fits placement. If not, repeat instructions, **The more you like it, the closer it goes to you, and the less you like it the farther away it goes. Where do you put the kitten? Now the snake.** If child also likes snakes, ask re another animal that they would not like, e.g. **How much do you like or not like mosquitoes? Point to the place on the board.**

Set up photos in semi-circle to right of board. BWIBWIBWI

Now here are pictures of people. You put people on this board closer to you the more you like them and farther away the more you don't like them. Child chooses photos in whatever order and leaves them on board.

Black1 _____	White1 _____	Indian1 _____
Black2 _____	White2 _____	Indian2 _____
Black3 _____	White3 _____	Indian3 _____

From child's board, remove B3 W3 I3. Place a duplicate set of photos on a second board in the mirror image. (Show picture of another child of the ethnicity placed furthest away on the board) **If a (last place ethnic) child said that s/he liked the people in this way.**
would I say s/he was right or wrong? R W
This is how you put them; this is how h/she put them. Are both of you right or is someone wrong? both R _____ wrong

Show picture of a same-ethnic child. **If a (same ethnic) child said that s/he liked the people in this way** (the mirror image) **would I say s/he was right or wrong?** R W
Are both of you right or is someone wrong? both R ____ wrong

Change duplicate set to look like child's. **If a (last place ethnic) child said s/he liked the people in this way** (like subject),
would I say s/he was right or wrong? R W
Are both of you right or is someone wrong? both R _____ wrong

8. 7. 6. Perceived Similarity

Here is my same-different board (placed horizontal). **You put two pictures closer together on this board the more similar or same they are, and farther away the more different they are.** Put out apple, orange and animal pictures.

Let's practise with these pictures first. Here is an apple and an orange. Put them on the board to show how same or different they are --

APPENDIX D-4 (Cont'd)

closer together the more similar and farther apart the more different. What does that mean? How are they the same or different? (make sure that description fits placement) **Here is an apple and an animal. Put them on the board to show how same or different they are.** (If child uses only extremes) **if I gave you pictures that were a bit different but not a lot different, you would put them this way. OK?**

Place pairs of photos together on far side of board. Go in order across. **Put these two people on the board closer the more similar they are and farther apart the more different.** Record placement by picture.

W1 W2	____	____	W1 B1	____	____	B1 self	____	____
B1 I1	____	____	B1 B2	____	____	I1 self	____	____
I1 I2	____	____	I1 W1	____	____	W1 self	____	____
W2 B2	____	____	W1 W3	____	____	B2 self	____	____
B1 B3	____	____	B2 I2	____	____	I2 self	____	____
I2 W2	____	____	I1 I3	____	____	W2 self	____	____

9. <u>Approval Needs</u> (put array of 9 photos in the usual WBI sequence)
Which one gets good things (everything he wants) from adults?
Which one is liked most by people who are important?

APPENDIX D-5

Adapted PRAM II Items and Stories for Caucasian-Native Indian and Caucasian-Black Versions

Caucasian-Native Indian

Series A

1. SR - Cauc. girl - Cauc. boy - sitting

Here are two children. One of these children has four dolls with which they like to have tea parties. Which child likes to play with dolls?

2. RA - Indian boy - Cauc. boy - walking

Here are two boys. One of them is a kind boy. Once he saw a kitten fall into a lake and he picked up the kitten to save it from drowning. Which is the kind boy?

3. RA - Cauc. girl - Indian girl - standing

Here are two girls. One of them is an ugly girl. People do not like to look at her. Which is the ugly girl?

24. RA - Indian teenage boy - Cauc. teenage boy - sitting

Here are two boys. One of them is a cruel boy. When he comes home from school and his dog runs to meet him, he kicks his dog. Which is the cruel boy?

4. SR - Indian teenage boy - Indian teenage girl - sitting

Here are two children. They are thinking about what they want to be when they grow up. One of them wants to be a policeman. Which one wants to be a policeman?

APPENDIX D-5 (Cont'd)

23. RA - Cauc. teenage girl - Indian teenage girl - standing

Here are two girls. One of them is a happy girl. She smiles almost all of the time. Which one is the happy girl?

8. RA - Cauc. woman - Indian woman - sitting

Here are two women. One of them is a nice woman. She does nice things for her husband and children. Which is the nice woman?

9. RA - Indian man - Cauc. man - standing

Here are two men. One of them is a bad man. He took money out of his children' piggy bank and never put it back. Which is the bad man?

7. SR - Cauc. man - Cauc. woman - walking

Here are two people. After supper one of these people clears the table and washes all the dishes. Which person washes the dishes?

11. RA - Indian man - Cauc. man - standing

Here are two men. One of them is a healthy man. He never has a cold or a high temperature. Which is the healthy man?

12. RA - Cauc. woman - Indian woman - sitting

Here are two women. One of them is a sad woman. She has been left alone with no one to talk to. Which is the sad woman?

14. RA - Cauc. boy - Indian boy - standing

Here are two boys. One of them is a clean boy. Whenever he washes his face he also washes behind his ears. Which is the clean boy?

10. SR - Indian teenage girl - Indian teenage boy - standing

Here are two young people. One of them works at a gas station after school. Which one works at a gas station?

APPENDIX D-5 (Cont'd)

15. RA - Indian teenage girl - Cauc. teenage girl - sitting

Here are two girls. One of them is a stupid girl. She doesn't even know how to spell her name. Which is the stupid girl?

17. RA - Cauc. man - Indian man - sitting

Here are two men. One of them is a very selfish man. He does not care about anyone except himself. Which is the selfish man?

18. RA - Indian woman - Cauc. woman - walking

Here are two women. People say that one of them is a wonderful woman. She can do almost anything. Which is the wonderful woman?

APPENDIX-D-5 (Cont'd)

Caucasian-Black

Series A

1. SR - Cauc. girl - Cauc. boy - sitting

Here are two children. One of these children has four dolls with which they like to have tea parties. Which child likes to play with dolls?

2. RA - Negro boy - Cauc. boy - walking

Here are two boys. One of them is a kind boy. Once he saw a kitten fall into a lake and he picked up the kitten to save it from drowning. Which is the kind boy?

3. RA - Cauc. girl - Negro girl - standing

Here are two girls. One of them is an ugly girl. People do not like to look at her. Which is the ugly girl?

24. RA - Negro teenage boy - Cauc. teenage boy - sitting

Here are two boys. One of them is a cruel boy. When he comes home from school and his dog runs to meet him, he kicks his dog. Which is the cruel boy?

4. SR - Negro teenage boy - Negro teenage girl - sitting

Here are two children. They are thinking about what they want to be when they grow up. One of them wants to be a policeman. Which one wants to be a policeman?

23. RA - Cauc. teenage girl - Negro teenage girl - standing

Here are two girls. One of them is a happy girl. She smiles almost all of the time. Which one is the happy girl?

8. RA - Cauc. woman - Negro woman - sitting

Here are two women. One of them is a nice woman. She does nice things for her husband and children. Which is the nice woman?

9. RA - Negro man - Cauc. man - standing

Here are two men. One of them is a bad man. He took money out of his children' piggy bank and never put it back. Which is the bad man?

APPENDIX D-5 (Cont'd)

7. SR - Cauc. man - Cauc. woman - walking

Here are two people. After supper one of these people clears the table and washes all the dishes. Which person washes the dishes?

11. RA - Negro man - Cauc. man - standing

Here are two men. One of them is a healthy man. He never has a cold or a high temperature. Which is the healthy man?

12. RA - Cauc. woman - Negro woman - sitting

Here are two women. One of them is a sad woman. She has been left alone with no one to talk to. Which is the sad woman?

14. RA - Cauc. boy - Negro boy - standing

Here are two boys. One of them is a clean boy. Whenever he washes his face he also washes behind his ears. Which is the clean boy?

10. SR - Negro teenage girl - Negro teenage boy - standing

Here are two young people. One of them works at a gas station after school. Which one works at a gas station?

15. RA - Negro teenage girl - Cauc. teenage girl - sitting

Here are two girls. One of them is a stupid girl. She doesn't even know how to spell her name. Which is the stupid girl?

17. RA - Cauc. man - Negro man - sitting

Here are two men. One of them is a very selfish man. He does not care about anyone except himself. Which is the selfish man?

18. RA - Negro woman - Cauc. woman - walking

Here are two women. People say that one of them is a wonderful woman. She can do almost anything. Which is the wonderful woman?

APPENDIX E

Variables in Each Grade with Significant Skewness and/or Outlier Values.

APPENDIX E-1

Variables in Each Grade with Significant Skewness.

Grade	Variables	Skew
	Positive Attributions to Whites (Ethnic Boxes Task)	-2.61
Kindergarten	Conservation Score	1.51
	Perceived Similarity Blacks	1.17
	Perceived Similarity Whites/Blacks	-1.19
	Positive Attributions to Whites (Ethnic Boxes Task)	-2.50
	Positive Attributions to Blacks (Ethnic Boxes Task)	-1.25
	Positive Attributions to Native Indians (Ethnic Boxes Task)	-1.99
Third	Negative Attributions to Blacks (Ethnic Boxes Task)	-1.56
	Conservation Score	-1.93
	Perceived Similarity Blacks	1.48
	Perceived Similarity Native Indians	1.50

Note. Significance of skew, $p < .01$.

APPENDIX E-2

Number of Outlier Values at each Grade.

	Grade	
	Kindergarten (N = 35)	Third Grade (N = 40)
Variable		
Father Occupation	1	2
Positive Attributions to Whites (Ethnic Boxes Task)	2	1
Pro-White/anti-Black Bias (PRAM II Adaptation)	0	1
Perceived Similarity Blacks	3	0
Conservation Score	0	1
Average Perceived Similarity Within Group (Native Indian)	0	1

APPENDIX F

Means and Standard Deviations of Variables with Significant School Differences.

APPENDIX F

Significant School Differences.

Variable.	School A	B	C	D	F
Negative Attributions to Blacks (Ethnic Boxes Task)	12.3_a	13.0_a	9.9_{ab}	7.6_b	1.7
Negative Attributions to Native Indians (Ethnic Boxes Task)	10.1_a	9.5_a	9.8_a	15.4_b	
Perceived Similarity Self-Blacks	43.9	35.9	41.5	44.9	
Perceived Similarity Self-Whites	16.0_{ab}	11.4_{ab}	7.1_a	24.3_b	
Perceived Similarity Whites-Native Indians	24.4_{ab}	20.2_{ab}	14.0_a	30.4_b	
Perceived Similarity Whites-Blacks	44.1	34.7	34.9	37.3	
Harter Social Acceptance Score	19.4_a	19.1_a	13.8_b	19.8_a	
Harter Appearance Score	20.5_a	19.9_a	16.0_b	21.2_a	

Note. Means with different subscripts are significantly different, $p < .05$.

APPENDIX G

Summary of Regression Analyses with Non-Significant Predictors of Ethnic Attitudes and Preference from Cognitive and Perceived Similarity Measures

APPENDIX G

Summary of Regression Analyses with Non-Significant Predictors of Ethnic Attitudes and Preference from Cognitive and Perceived Similarity Measures

Dependent Variables	Predictors	BETA	sr^2
Pro-White/anti-Black Bias (PRAM II)	Grade	.77	.02
	Flexibility of Attributions	.56	.02
	Perceived Similarity Between Groups	.42	.01
	Perceived Similarity Within Groups	-.24	.005
	Grade X Flexibility of Attributions	-1.26	.04
	Grade X Perceived Similarity Between Groups	-.53	.01
	Grade X Perceived Similarity Within Groups	.11	.0009
	Multiple R = .50		
	R^2 = .25		
	F (7,66) = 3.09*		
Liking of Blacks	Grade	-.05	.0001
	Flexibility of Attributions	-.08	.0004
	Perceived Similarity Between Groups	-.25	.0036

APPENDIX G - (Cont'd)

Summary of Regression Analyses with Non-Significant Predictors of Ethnic Attitudes and Preference from Cognitive and Perceived Similarity Measures

Dependent Variables	Predictors	BETA	sr^2
	Perceived Similarity Within Groups	.49	.0169
	Grade X Flexibility of Attributions	.17	.0009
	Grade X Perceived Similarity Between Groups	.22	.0025
	Grade X Perceived Similarity Within Groups	-.29	.0064
	Multiple R = .21		
	R^2 = .05		
	F (7,66) = .46 n.s.		
Liking of Native Indians	Grade	-.23	.0016
	Flexibility of Attributions	-.22	.0036
	Perceived Similarity Between Groups	-.42	.0121
	Perceived Similarity Within Groups	-.22	.0025
	Grade X Flexibility of Attributions	.29	.0025
	Grade X Perceived Similarity Between Groups	.44	.01

APPENDIX G - (Cont'd)

Summary of Regression Analyses with Non-Significant Predictors of Ethnic Attitudes and Preference from Cognitive and Perceived Similarity Measures

Dependent Variables	Predictors	BETA	sr^2
	Grade X Perceived Similarity Within Groups	.14	.0016
		Multiple R = .41	
		R^2= .17	
		F (7,66) = 1.9 n.s.	
Positive Attributions To Whites	Grade	.10	.0009
	Perceived Similarity Between Groups	.40	.01
	Perceived Similarity Within Groups	-.46	.0169
	Grade X Perceived Similarity Between Groups	-.42	.01
	Grade X Perceived Similarity Within Groups	.28	.007
		Multiple R = 20	
		R^2= .04	
		F (5,68) = .60 n.s.	
Positive Attributions To Native Indians	Grade	.38	.0144
	Perceived Similarity Between Groups	.17	.0023

APPENDIX G - (Cont'd)

Summary of Regression Analyses with Non-Significant Predictors of Ethnic Attitudes and Preference from Cognitive and Perceived Similarity Measures

Dependent Variables	Predictors	BETA	sr^2
	Perceived Similarity Within Groups	-.46	.0169
	Grade X Perceived Similarity Between Groups	-.45	.0121
	Grade X Perceived Similarity Within Groups	.55	.0289
		Multiple R = .38	
		R^2= .15	
		F (5,68) = 2.37*	
Negative Attributions To Whites	Grade	.58	.0324
	Perceived Similarity Between Groups	.30	.0064
	Perceived Similarity Within Groups	-.36	.01
	Grade X Perceived Similarity Between Groups	-.53	.0144

APPENDIX G - (Cont'd)

Summary of Regression Analyses with Non-Significant Predictors of Ethnic Attitudes and Preference from Cognitive and Perceived Similarity Measures

Dependent Variables	Predictors	BETA	sr^2
	Grade X Perceived Similarity Within Groups	.48	.0196
		Multiple R = .44	
		R^2= .19	
		F (5,68) = 3.19*	

* p = .05

APPENDIX H

Instructions to Scorer:

Coding Form.

APPENDIX H-1

INSTRUCTIONS TO SCORER

Every time a child in the group makes a spontaneous statement record it by circling the appropriate abreviation in the coding form. Spontaneous statements can be self-perceptive, those that refer to competencies, abilities, possessions, behavior, or other self-attributes (e.g. "I am good looking", "I love animals", "I have a pet") or other (i.e. neutral) (e.g. "It's hot here"). Spontaneous self-perceptive statements are coded as SS on the coding form. Moreover, self-perceptive statements can be favorable (e.g. "I am nice") or unfavorable (e.g. "I am silly"). On the coding form "favorable" spontaneous self-perceptive statements are coded as + and "unfavorable" spontaneous self-perceptive statements are coded as −. Similarly, "other" spontaneous statements are coded as OS. Moreover, the experimenter can elicit from the child a "favorable" or "unfavorable" self-perceptive statement in response to the question: "TELL ME SOMETHING GOOD ABOUT YOURSELF" or "TELL ME SOMETHING BAD ABOUT YOURSELF". Record this by coding FE for "favorable elicited" or NFE for "non-favorable elicited". In addition, the experimenter can "prompt" the child to say something about himself/herself with a question worded in such manner that the answer can be either favorable or unfavorable (e.g. "Do you think you are friendly?"). Record whether or not the child is prompted by checking PROMS on the coding form. Finally, the experimenter can ask questions to the child worded in such a way that the response will be favorable (e.g. "Do you think you are helping me by being here?"). This is called "eliciting praise" and it is coded as EP on the coding form. Finally, the experimenter can ask questions that do not fall into any of the above categories in which case they are recorded under the category OE (e.g. "What was the name of the child in the story?"). To each of the "elicited" statements the child can answer in either a positive, negative manner or provide no answer. Record this by circling appropriate symbol directly below kind of elicitation in the coding form.

For each of the child's "spontaneous" or "elicited" comments whether they be "favorable" self-perceptive, "unfavorable" self-perceptive, or "other" the experimenter can respond in any of a variety of ways: (1) Child's comment is followed by experimenter's "I-positive" statement (IP) (e.g. "I am happy to hear that"), (2) "I-negative" statement (IN) (e.g. "I am sad to hear that"), (3) restating the child's remark (RR) (e.g. " So you help your parents"), (4) Agreeing with the child's remark (e.g. "That's right") (A), (5) Disagreeing with the child's remark (D), (6) Ignoring the child's remark (Ig) or (7) other (Ot). Record appropriately by placing a frequency mark ( ) in the adequate space for child on the coding form.

A series of utterances referring to the same thought or requesting a specific behavior should be coded as ONE utterance.

APPENDIX H-1 (Cont'd)

When the experimenter asks general questions to the group (e.g. How are you today?) neither the question or the answer are to be coded.

Unless it is a direct response to a question by the experimenter any utterance emitted by the child should be coded as OS (i.e. other spontaneous) even if the utterance forms part of a sequence.

If the child's response is not audible and the experimenter asks for clarification the experimenter's request for clarification should NOT be coded as OE but as OT experimenter's response.

RR refers to an experimenter's response that literally mirrors the child's utterance.

If a child verbally interrupts the experimenter' question DO NOT CODE the child's utterance if it is in answer to the question. However, CODE IT if it is an spontaneous utterance by the child.

APPENDIX H-2

Coding Form

Date__________________Time____________Children Present________

Types of Statement

	FSS___	FE___	NFSS___	NFE___	Prom___	EP___	OS___	OE___
Child's Name		+ _ n		+ _ n	+ _ n	+ _ n		+ _ n
	IP	IP	IP	IP	IP	IP	IP	IP
	RR	RR	RR	RR	RR	RR	RR	RR
	A	A	A	A	A	A	A	A
	D	D	D	D	D	D	D	D
	IN	IN	IN	IN	IN	IN	IN	IN
	Ig	Ig	Ig	Ig	Ig	Ig	Ig	Ig
	Ot	Ot	Ot	Ot	Ot	Ot	Ot	Ot
Child's Name	IP	IP	IP	IP	IP	IP	IP	IP
	RR	RR	RR	RR	RR	RR	RR	RR
	A	A	A	A	A	A	A	A
	D	D	D	D	D	D	D	D
	IN	IN	IN	IN	IN	IN	IN	IN
	Ig	Ig	Ig	Ig	Ig	Ig	Ig	Ig
	Ot	Ot	Ot	Ot	Ot	Ot	Ot	Ot
Child's Name	IP	IP	IP	IP	IP	IP	IP	IP
	RR	RR	RR	RR	RR	RR	RR	RR
	A	A	A	A	A	A	A	A
	D	D	D	D	D	D	D	D
	IN	IN	IN	IN	IN	IN	IN	IN
	Ig	Ig	Ig	Ig	Ig	Ig	Ig	Ig
	Ot	Ot	Ot	Ot	Ot	Ot	Ot	Ot
Child's Name	IP	IP	IP	IP	IP	IP	IP	IP
	RR	RR	RR	RR	RR	RR	RR	RR
	A	A	A	A	A	A	A	A
	D	D	D	D	D	D	D	D
	IN	IN	IN	IN	IN	IN	IN	IN
	Ig	Ig	Ig	Ig	Ig	Ig	Ig	Ig
	Ot	Ot	Ot	Ot	Ot	Ot	Ot	Ot